Inaugural Address

ON

THE FUTURE OF ELECTRICITY IN MEDICINE.

Delivered at the Inauguration of the Electro-therapeutic Section of the Royal Society of Medicine on Oct. 25th, 1907,

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Gentlemen,—I congratulate you on your presence here to-night on what I cannot help thinking is a historic event, the first meeting of the Electro-therapeutic Section of the Royal Society of Medicine, the first occasion on which electrical science has been represented in the Witenagemot of Medicine. It would be wearisome to recount the past history of electro-therapy or to dwell on the troubles and indignities of its youth. Suffice it that the Electro-therapeutical Society has taken its place by its sister societies, and it is for us as servants and votaries of medicine to prove by zealous service our right to that place.

The subject of my address is the Future of Electricity in Medicine, the rôle which electricity is destined to play in the future development of the healing art. The first record of electro-therapeutic treatment was in A.D. 34, when, as Scribonius Largus tells us, patients suffering from rheumatism and gout were placed in a bath containing electric eels. Up to recent times the progress of medical electricity has been a slow one. But that progress of late years has been greatly accelerated. Seldom in the evolution of a science has such a rapid advance been made as that of Roentgen diagnosis and electro-therapeutic treatment during the last decade. I propose to trace briefly the general trend of this advance, and from the direction of progress in the past, to endeavour to predict the course of its future development.

Roentgenography.

And first as to roentgenography or skiagraphy: the impression of the shadow of internal structures on a photographic plate. Marvellous as is the progress since the appearance of Roentgen's original pamphlet, "Uber eine neue Art von Strahlen," we are still far from having attained finality in this direction.

The focus-tube.—The Roentgen tube itself is but a very imperfect instrument, the result more of chance than of design, and far from realising our ideal of a focus-tube—a fixed and unvarying source for the emission of ethereal undulations of definite wave length and constant intensity. Some such tube as this I seem to see foreshadowed—an ethereal musical instrument able to give out and sustain without alteration of pitch any required note of the Roentgen gamut; able also at the will of the operator to run through the whole of the scale with any desired rapidity. We require a chord of Roentgen vibrations, the component notes of which will in turn bring out on the plate the softer tissues, the muscles, the arteries, and the bones. Something of this sort has been already accomplished. In the latest development the plastic skiagraphy of Dr. Béla Alexander, a soft tube, the bass viol as it were, is used in conjunction with a hard tube, the flute of the Roentgen orchestra. A practical advance in this direction would be the construction of a tube-holder similar in principle to the nose-piece of a microscope, which shall hold three or more Roentgen bulbs in such a manner that any one of them can instantly be placed in position over the diaphragm. By this means we should be able to switch on radiations of different penetration on the same plate during a single exposure. It is evident that any photograph showing a large amount of detail and differentiation of structure must be the product of a composite irradiation. This I believe to be the explanation of the supposed superiority of long exposures in skiagraphy. Radiographers giving a long exposure are, in fact, using a tube which is gradually getting harder and is therefore giving out rays of ever-increasing penetration.

The photographic plate.—The photographic plate is susceptible of as much improvement as the focus-tube. The compass of the Roentgen scale may be greatly extended, not only by using a more variable source but also by increasing the sensitiveness of the plate which registers the vibrations. So the ripple marks on the seashore are dependent not only on the magnitude of the waves but on the fineness of the sand which receives their impressions. The improvement of the photographic plate offers an inexhaustible field to the ingenuity of the inventor. The present tendency seems to be to increase the thickness of the film and the density of the silver salts in the emulsion. Some operators even attempt to increase the absorption of the rays by using two plates placed face to face.

Development.—The development of the plate is a matter of almost equal importance. It is only an expert photographer who can attain proficiency in the art of developing the host of superimposed lights and shadows which we call a negative. Let me explain. If I handle this piece of glass you know that the perspiration will leave on it an almost invisible impression of my finger tips. By appropriate means, the use of osmic acid, photography, and the like, we may obtain a permanent record, a detailed plan and figuration of this chance impression. All the lines of the finished picture were present in the original impression, though invisible, and any want of skill in the handling and subsequent treatment would have obliterated them completely. So in even the most imperfect Roentgen negative there is imprinted a vast amount of detail which may be brought out by careful manipulation.

Printing.—When the negative is developed we are still far from the end of our labours if we would get the very best results of which our art is capable. At the last Berlin Congress Dr. Béla Alexander has shown how details and differentiation of invisible or barely visible shadows may be reinforced by repeated copying and recopying of the superimposed negative and diapositive. In this method, the so-called "plastic roentgenography," the negative is first copied as a diapositive; the two are then superimposed with a very slight displacement and a plate is made from this combination. To obtain a print this combination is copied once more and the final print is made from this fourth plate. In some of Dr. Alexander's later work every smallest detail of muscle and tendon, artery and vein, stands out with startling clearness.

As the length of exposure becomes shorter and shorter we may expect an extension of the use of reinforcing plates, whereby the exceedingly brief Roentgen illumination is prolonged by phosphorescence. The question of screening the plate from the effects of secondary radiations again is becoming of ever-increasing importance. In roentgenography for the detection of renal calculus and the like the results may often be improved by placing a sheet of aluminium or tin immediately over the photographic plate.

Time of exposure.—In the future the time of exposure will certainly be greatly reduced. The lightning flash of x rays will be allowed to act on the plate for only a fraction of a second. The enormous current necessary for this will probably be switched on and off again by a single motion of the key, so as to prevent its ever passing for a sufficient length of time to overheat the anticathode or damage the tube. The exposure of the future must be instantaneous not only with regard to the respiratory movements but also when compared with the heart beat. This is already quite within the bounds of possibility. I recently showed the skiagram of a bullet in the pericardium taken by Professor Rieder of Munich. The absolutely round contour of the bullet shows that it was practically unmoved by the cardiac beat during the time of exposure.

Those who have seen the beautiful pictures produced by tele-roentgenography—skiagraphy at a distance—will agree with me that this method has before it a great future. Dr. Rosenthal of Munich has made some wonderful skiagrams by this method which I hope to lay before you at a future meeting. In this procedure the focus-tube is placed at a distance of two or more metres from the patient. By this means the magnification of the shadow is greatly reduced and the distortion avoided. Tele-roentgenography will probably be used in the future to replace the more tedious processes of ortho-diascopy and ortho-roentgenography.

At the Surgical Section of this society Professor E. Goldmann showed a somewhat novel procedure for obtaining the necessary differentiation of transparency in abdominal examinations. The procedure consists in blowing up the colon as far as the cæcum with air, previously to the Roentgen examination. By this method he has obtained most interesting skiagrams of calculi and concretions in the appendix. This is a similar method to that which has been

in use for some time for the examination of diseased joints, where the necessary transparency of the joint has been obtained by injecting oxygen. The latter procedure is not without its danger, as one or two fatal accidents have been reported by German observers.

Compression.—I would draw your attention to one further point, and that is the *raison d'être* of compression. Compression alone does not increase penetration. The absorption of the x rays is determined by the total amount of tissue traversed, not by the closeness of its packing. What compression does is to abolish air spaces and increase the homogeneity of the tissue. Those who are familiar with the use of the fluorescent screen in the examination of the stomach will have been struck with the great increase of transparency obtained when the screen is brought into intimate contact with the abdominal walls, and a still further increase of clearness when pressure is used. This greater transparency is due to the greater homogeneity of the medium, and to the expulsion of air from the region immediately under the screen. A similar phenomenon is well known in optics. The greater translucency of a wetted cloth is due to its increased homogeneity and to the exclusion of layers of air. In order to obtain the best results the use of a compressor of some sort is absolutely essential. Some of the best results have been obtained by using a pad of loofah under the compressor. In the search for renal calculus compression is not so important since the usual position of the plate under the patient's body gives the two desiderata—viz., pressure and intimate contact. In examination of the apex of the lung, however, this is much more difficult of attainment. In order to compare the opacity of the apices of the two lungs it might be possible to obtain a closer contact by means of an adherent photographic film. In the same way the fluorescent screen might perhaps be made of some flexible material so as to secure complete apposition. Perhaps even it might be possible to paint directly on the skin a collodion film which shall be sensitive to the photographic or fluorescent action of the rays. These, then, are some of the improvements which we may fairly expect in the production and printing of that complex impression, a Roentgen photograph. This is not a simple record but a most marvellous palimpsest, where shadow is superimposed on shadow, one record on another in seemingly hopeless confusion, but each capable of yielding up its secret to the earnest and patient student.

Diagnosis.—In diseases of the chest, diagnosis by means of the Roentgen rays is developing rapidly. Roentgenography is destined to take its place beside, if it does not overshadow, the older classical methods. The Roentgen diagnosis of infiltrations of the apices of the lungs is already fairly advanced and a very satisfactory instrument has been designed which enables us to compare the opacity of the two apices. What is of even greater importance is the possibility of diagnosing infiltrations of the glands of the hilus of the lung, a condition which is wholly beyond the ken of the older methods of diagnosis. It needs no prophet, therefore, to foretell that the future hospital or infirmary for diseases of the chest will be furnished with an x ray installation as a matter of course. The same may be said of orthodiagraphy for diseases of the heart. In diseases of the stomach also a whole new field of research has been opened up by the labours of Rieder and Holzknecht, a field which we may rest assured will not be left untilled.

One of the most vivid impressions of my life was my first sight of the beating heart, like some living creature tranquilly breathing within its bony cage. Still more impressive was the sight of the stomach during the digestion of a bismuth breakfast. The course of each mouthful during mastication and deglutition was visible on the screen, revealing as it passed the position of the œsophagus and the shape and movements of the stomach. The whole process of digestion could be followed, from the ingestion of the meal to the final passage of the food through the pylorus.

Even the kinematograph has been pressed into the service of medicine. At the last Berlin Congress the movements of the diaphragm and viscera during respiration were clearly reproduced on the lantern screen. If this is possible only a decade after Roentgen's discovery, what may not our successors hope to witness in the future? The differential diagnosis of various forms of arthritis, gout, rheumatism, and rheumatoid arthritis is well within our reach. Even now in some hospitals a Roentgen examination of the hands is a routine preliminary to the diagnosis of chronic disease of the larger joints.

Before I leave the subject of electricity in diagnosis there is one of its possible uses which has been hitherto overlooked but which I think might be of considerable utility. I allude to the employment of electricity during the preparation and staining of microscopic specimens. The demonstration of slight differences of structure, the inquiry into the penetration of external remedies, and the study of ionic cataphoresis may best be carried out in the field of the microscope. It would be interesting to know what is the exact effect of a weak galvanic current or of the x rays on the staining of a microscopic specimen. In the early days of the Roentgen rays they were used commercially in the operation of tanning leather. It is quite possible that some interesting facts as to skin structure might be obtained by careful experiment on the ionic penetration of the skin under the influence of x rays or radium.

Pathology.—I have no time to do more than glance at the use of the x rays in anatomy and pathology. In anatomy the tedious process of dissection to trace the blood-supply is now replaced by a series of roentgenograms of a suitably injected organ. In pathology also specimens of the blood-supply of the neoplasm and its influence on the glands can best be examined by injection and roentgenography.

ELECTRO-THERAPY.

We must now turn our attention to electro-therapy—the application of electricity to the treatment of disease.

Radium.—And first with regard to radium, for radium-therapy may fairly be included within the scope of electrical treatment, if we accept the modern theory that electricity is but the displacement of electrons. There is no fundamental difference between the natural radio-activity of radium and the artificial radio-activity of the anticathode of an x ray tube. There is no more interesting phenomenon in medicine than the withering of a wart, a lupus nodule, a rodent ulcer, or a patch of epithelioma under the influence of radium irradiations. All embryonic or rapidly growing neoplasms are apparently destroyed with equal facility, provided they are sufficiently circumscribed, and surrounded by healthy tissues. Could we but discover the *raison d'être* of this action we should perhaps have the key to nature's own method of cure. Do radium and x ray irradiations act by direct bacterial destruction or do they only awaken the resistance of the affected tissues? It would seem that an invaded tissue possesses three lines of defence—the first, hyperæmia, a flushing of the invaded area with lymph; the second, pigmentation, a screening of the organism from malign radiations; the third, an increased production of connective and scar tissue. All these phenomena may be observed in the integument which has been exposed to radium or to the artificial radio-activity of an x ray tube. In the early days of radiotherapy, when the x rays were used much more than they are now for hypertrichosis, one found again and again that the hair bulbs were strangled by a reticulated growth of connective tissue. After a long series of irradiations the face became smooth, pale, polished, and cold, and this without any visible x ray reaction. The curative action of x rays and radium on cancerous and other neoplasms appears to depend greatly on this stimulating action on the protective growth of scar tissue.

Roentgen therapy.—With regard to roentgen therapy, the most important point is the question of dosage. A recent paper by Rieder of Munich emphasises the importance of exceedingly small doses of Roentgen rays. It is now known that in cases of leukæmia an intense and prolonged irradiation may often have a deleterious effect, even though it results in a cure from a hæmatological point of view. Formerly it was the custom to continue the irradiation until the leukæmia had completely abated. Rieder advises that the treatment should be intermitted as soon as there is a decrease in the number of leucocytes. The first sign of leukopenia is a contra-indication of further x ray treatment. He obtains the best results from single irradiations of five minutes' durations at intervals of one or even several weeks. The same observation applies to the treatment of struma, Basedow's disease, and the various skin diseases. I myself have insisted again and again on the efficacy of small doses and shown that there is hardly any of these affections, be it chronic eczema or acne, psoriasis or sycosis, which is not benefited by small doses of the Roentgen rays.

As to the bactericidal action of the rays; no one who has watched the cleansing of a foul varicose ulcer by the x rays can doubt that they are bactericidal *in vivo*, whatever they may be *in vitro*, or on a culture plate. It may be that the effect is not directly bactericidal but consequent on local

hyperæmia. The efficacy of Bier's "Stauung" treatment seems to indicate that an abundant supply of lymph is the chief factor in nature's mechanism of healing. If this be so I know of no means of producing this limited and localised hyperæmia more certain than radium or x ray irradiation. Whatever may be the rationale of the Roentgen cure there is certainly an increasing tendency to give smaller and less frequent doses than in the early days of radiotherapy. Most observers are now agreed that any visible and intense reaction should be avoided. We have other more efficient and less dangerous means of producing destruction of tissue or cauterisation. It is seldom necessary to proceed even to epilation.

Ringworm.—It may, indeed, be doubted if Sabouraud's epilation method is the last word to be said in the treatment of ringworm. Parents and practitioners alike are somewhat chary of subjecting very young infants to so potent and powerful an agent, the action of which is so obscure and the ill-effects of which are so occult and so long delayed. In the future I believe that epilation will be reserved for older children or for inveterate cases only. It is, moreover, somewhat unscientific to root up the wheat in order to destroy the tares when we have such a discriminating agent as the x rays at our command.

At the Berlin Congress Forstling of Hanover read a paper on the Ill-effects of X Ray Irradiation on Development, and showed a puppy, one of whose legs had been exposed to ten minutes' Roentgen irradiation when it was eight days old. The limb was permanently dwarfed and withered. It is true that, as Holzknecht has pointed out, the development of a young animal is much more rapid, and therefore more easily inhibited, than that of a child. Moreover, the skull of the infant will filter out some of the softer and more deleterious rays. But even so, the observation is not a pleasant one and should give us pause. The ill-effects, if any, caused by irradiation of the child's nerve centres would be recognisable perhaps only after the lapse of years. On the other hand, I believe that small doses of Roentgen rays are of considerable utility in the treatment of ringworm. The method of introducing the copper ion by electrolysis also bids fair to be of great utility. The chief disadvantage is on the score of pain to the little patients, but this may be obviated in great measure by the simultaneous introduction of the cocaine ion.

This question of the penetration of the copper or mercury ion under the influence of the x rays, high-frequency, and the galvanic current might easily be set at rest by suitable experiment. A couple of small pedunculated fibromata on the same patient might be treated with ointment or lotion containing a copper or mercury salt. One of them should then be irradiated or otherwise treated electrically. Both should then be examined under the microscope with suitable reagents, to determine the depth to which the metal ion had penetrated. Better still, a limb that has been condemned for amputation might be made the subject of experiment. Each finger or toe should be massaged with an ointment of oleate of copper. One finger might then be exposed to Roentgen irradiation, another to high-frequency effluve, another to the galvanic current, and so on.

High-frequency.—We have but little time to linger on the other modalities of electric treatment. High-frequency treatment has of late been receiving more attention in England. There seems to be no doubt that autoconduction and autocondensation are valuable means of reducing high arterial tension. The rapidly changing magnetic field appears to set up a sympathetic vibration of the electrons. According to the rapidity and wave length of this vibration it may cause either stimulation or inhibition of the nerve centres. It is possible that the same frequency of vibration may cause inhibition of one nerve centre and stimulation of another. In this way we might obtain simultaneous stimulation of the vaso-dilator and inhibition of the vaso-constrictor centres. The very marked action of high-frequency currents on the kidneys and on the urinary secretion is probably also due to the direct stimulation of the vaso-dilator centres.

It is surely unscientific to attempt to taboo high-frequency treatment because it has claimed too much and been used perhaps for unworthy purposes. The same may be said of any method of treatment, and indeed of all human activities. The opposition in England and Germany to d'Arsonvalisation, as it is called, has aroused the ire of a French writer, who speaks of it in words which are applicable not alone in France. "I speak," he says, "to the body of medical men who work, who desire to know, and whose brain is not curdled by dull routine. *Le reste ne compte pas.*" As students of electro-therapeutics we cannot afford to neglect any of the modes of motion of the electrons, the gentle flow in the galvanic current, the sudden rise and fall of velocity in the faradic current, or the lightning rapidity of high-frequency vibrations. A high-frequency apparatus, however, is a dangerous weapon in ignorant hands. It is not a plaything to be intrusted to an inexperienced operator, be he qualified or unqualified in a legal sense. Only recently I had an opportunity of seeing the dangerous results of a high frequency application in an unsuitable manner. The case, one of cardiac debility, was treated by stimulation with a glass excitor over the solar plexus. As might have been expected, it resulted in a considerable fall of blood pressure, accompanied by weak pulse and great exhaustion. It has always been a matter of amazement to me how practitioners undertake the management of these powerful instruments with the gay insouciance of ignorance. The most important advance in electro-therapeutics will be the adequate instruction of the practitioner in the use of such lethal weapons. It is difficult to believe that the practitioners of the future will undertake so grave a responsibility as the application of x rays and high-frequency with so little preparation and so small a stock of physical knowledge.

Ions.—One of the most interesting developments of electric treatment is that of ionic medication, or ionic cataphoresis as I should prefer to call it. It may be noted in passing that the time-honoured treatment by internal medication, the introduction of drugs *per vias naturales*, is in reality ionic medication; since as Van 't Hoff and others have shown, a weak solution of an electrolyte is in fact a solution of already dissociated ions. Internal medication is, therefore, ionic medication. Again, the old-fashioned galvanism with copper electrodes was in reality ionic cataphoresis. The pure effect of a galvanic current is almost unknown, since even with carbon electrodes and a thick pad of absorbent wool moistened with distilled water we cannot get rid of the action and caustic properties of the hydrogen ion. The successful treatment by ionic cataphoresis requires the most careful technique, perfect cleanliness, and as many precautions as does surgical asepsis.

The chief obstacle to further progress in this direction is the difficulty of producing sufficient ionic penetration without excessive pain or injury to the skin. There are two precautions which are of the most importance in ionic treatment—one is the absolute steadiness of the current and the second is the very gradual rise and fall of potential when switching the current on and off. The first of these, the avoidance of accidental fluctuations in the current intensity, is absolutely impossible when using the public electric mains. A much better method is to use a battery of storage cells for all galvanic and ionic treatment. In repeating the experiments on electric sleep Dr. Louise Robinvitch found that the sleep was much more tranquil and profound at Nantes than at Rome. So much so that she imagined the difference must be due to variations in the physiological susceptibility of different breeds of rabbits. Subsequently she found that in the former town the current was obtained from storage cells whereas in the latter the laboratory was supplied directly from the public mains.

Of equal importance is the gradual and imperceptible rise and fall of the current intensity. In ionisation or electric stimulation the pain is not caused by the intensity of the current but by the variations of intensity. One of the instruments that we most need is an automatic contrivance for gradually turning on the current, increasing it very slowly, and turning it off again with equal precautions. Such a contrivance should not be difficult to design and I commend it to the notice of the mechanical members of this section. In ionic cataphoresis also the question of dose is of the utmost importance. Take, for example, the zinc ion. With the introduction of small ionic doses of zinc there is an increase of the vitality of the skin, as evidenced by the accelerated growth of hair. With large doses paralysis of the function of the skin and mortification of the tissue are met with. It is curious to note that the lesions due to the introduction of metallic ions greatly resemble those produced by the x rays and exhibit a similar phenomenon of latency. This observation, which is due to Leduc, may throw some light on the cause of x ray burns.

Electric sleep.—Professor Leduc's recent work on electric sleep has opened up a magnificent and far-reaching vista. It

has given us the means of producing sensory and cerebral inhibition. In the future an intermittent current of proper frequency may be at our disposal by means of which we can at will switch off any or all the nerve centres one by one. Perhaps the section will permit me to quote from an editorial article on this subject which I wrote for the "Archives of the Röntgen Ray" and which has created a certain amount of interest in the German press:—

In the armamentarium of medicine there is a goodly array of weapons for stimulation, but comparatively few instruments for inhibition. Professor Leduc has given us a sleep-compeller, acting, not by poisoning, or counter-irritation, or exhaustion, but by the direct and immediate inhibition of the brain-cells themselves.

The inhibition is produced by an electrical stimulation of the nerve-cells, with a rhythm which is incompatible with their physiological activity. To produce the inhibitory effect the current oscillations must be in tune with the physiological note. The frequency for the brain of the rabbit is 100 per second, and the current duration one-thousandth of a second. Quietly, without a cry or movement, without the least sign of pain or discomfort, the animal sinks into a condition of deep narcosis, similar to that produced by chloroform. On the cessation of the current the animal awakens instantly, without any sign of pain, or fear, or of fatigue.

Professor Leduc has subjected himself to the treatment with no ill-effects, although in his case the experiment was not carried far enough to produce complete narcosis.

Not only can general anæsthesia be produced, but by appropriate modifications of the process a limited local anæsthesia is also obtainable by this method. We are thus furnished with a most potent instrument for producing nervous inhibition, and we may hope ere long to see the electric sleep in use as a practical remedial agent, replacing or reinforcing the natural rest. More than this, we have some reason for supposing that each muscle and nerve is attuned to its own special period of electric stimulation, and therefore of electric inhibition, so that in the near future we may be able to put to sleep a tired member or an injured organ without obliterating the general consciousness.

The necessity of finding some safe and simple means of inducing nerve sleep is becoming ever more important as the stress of civilisation increases, and the prevailing disease of the present day—a too widely extended and developed consciousness of our environment—becomes more acute. We may live to hear "two hours' inhibition" prescribed before an operation, or a "week's electric sleep" before an examination. The possibility of thus suspending growth and tissue changes is brought forcibly to our notice by the modern methods of forcing vegetables and flowers for the market. In the vegetable, as well as in the animal, world the axiom holds good that a period of quiescence or inhibition must precede a period of stimulated growth. The winter sleep of plants may be induced at any season of the year by placing them in cold storage, and plants whose growth has thus been retarded will develop much more rapidly on being reawakened by warmth. More recently the ether narcosis of plants has come into use. By this method a brief nap of some couple of hours seems to fulfil all the purposes of a long winter sleep, and the plant can be forced at once into a new season of growth and activity. It would be a marvellous addition to the forces at our disposal if we had some similar means for regulating the development and activity of the animal organism, and perchance the electric sleep may enable us to procure the inhibitory rest required as a prelude to stimulated growth.

At all events, we may expect great developments in the electrical treatment of neurasthenia and brain affections since Leduc has shown not only that the brain itself is within the domain of electrical treatment, but that total inhibition of the cerebral function may be produced by the mere pressure of an electric switch.

Theory.—We may look forward to great progress in electrical theory and a clarification of our ideas as to the rationale of electricity as the result of the epoch-marking discoveries of the last few years. The electron theory is so beautiful and so simple that we can only hope that the physicist will leave it alone as it now stands. For us who endeavour to visualise the passage of electricity through the human body it is no small matter to have replaced the vague conception of an electric current by the mental picture of a double train of moving ions.

It is a most fascinating theme this, the future of electricity in medicine. But my time and your patience are both exhausted. In concluding let me congratulate the members of this section on having chosen this, the most interesting and stimulating of all branches of medicine. We stand on the utmost verge and boundary of things, where the coast line which separates the known and the unknown is shifting most rapidly. For us is the supreme satisfaction of watching and in some measure assisting in this transformation. For us the whole past of medicine is full of inspiration; for us the future of physical and electrical science teems with the very embodiments of our most sanguine dreams.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—The annual meeting of the Newport and Monmouthshire Hospital Needlework Guild was held on Nov. 8th. The members of the guild make suitable garments for the patients of the institution, and Lady Forestier-Walker, the president, reported that during the past 12 months 404 articles were given away.

AN ANALYSIS OF 274 ADDITIONAL CASES OF REMOVAL OF GOITRE BY OPERATION.[1]

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IN previous communications I have published the whole of my operations (126 in number) for the removal of goitre, both innocent and malignant, up to February, 1901.[2] The present series of 274 cases is a direct continuation of the former series, and brings the total number of operations up to 400. It embraces every operation for the removal of goitre of whatever kind performed by me during the six and a half years ending Sept. 16th, 1907. The 274 operations now recorded were performed upon 268 patients, of whom 32 were men or boys and 236 women or girls. One man was operated upon five times for recurrent papilliferous tumour and two women twice, for papilliferous tumour and recurrent parenchymatous goitre respectively. 75 of the operations were performed in private practice and 199 in hospital practice. The ages of the patients varied from 12 years (No. 144) to 73 years (No. 338), and are shown in the accompanying table (Table I.).

TABLE I.—*Sex and Age.*

Sex ...	Males	36 operations on	32 patients	274 operations on 268 patients.
	Females	238 " "	236 "	

	Years of age.								
	Under 15	15–19	20–29	30–39	40–49	50–59	60–69	Over 70	Total
Operations... ...	6	19	61	92	59	29	7	1	274
Patients	6	19	60	91	59	25	7	1	268

It will be noticed that no less than 95 of the operations were performed upon people of the age of 40 and upwards; eight of these patients had reached the age of 60. Many of the operations were very extensive and formidable. With regard to the provenance of the patients, about three-fourths of the whole number have been sent to me from various parts of England outside London; about one-fourth come from London itself, but of these the majority had previously lived in the country. A few came from Wales, Ireland, and various countries abroad. The greater frequency of goitre in country districts is of course a marked feature of the disease, and the explanation of it is to be found, I believe, in the fact that those who live in large towns drink, as a rule, water from good public supplies. Those who live in country places often obtain their drinking water from open streams, wells, and other sources of supply far more likely to contain the goitre-producing poison, whatever that may be. At the same time, it must be borne in mind that in a considerable minority of cases, especially of encapsuled tumours, the nature of the drinking water has probably little or nothing to do with the causation of the goitre. Nearly all the patients were sent to me by medical men and had undergone in most cases treatment of various kinds for longer or shorter periods.

This paper deals only with those cases that for one reason or other I have thought fit to treat by the operation of removal. It need hardly be said that the great majority of cases of goitre require no operation at all. Most cases of parenchymatous goitre are better treated by internal remedies; many other goitres although not absolutely curable by medicine, cause little or no trouble, and require no active treatment at all. It is only in a minority of cases that operative interference is demanded, or even permissible.

Coming now to the *reasons for operation* in these cases, they are to be seen in Table II.

TABLE II.—*Chief Reason for Operation.*

	Cases.
Dyspnœa	in 177
Deformity	" 33
Discomfort or deformity, mostly with minor degrees of dyspnœa	" 47
Malignancy, papilliferous tumour, &c.	" 10
Suspected malignancy	" 3
Dysphagia	" 1
Increasing size	" 3
	274

[1] A paper read before the Surgical Section of the Royal Society of Medicine on Nov. 12th, 1907.

[2] In a later paper (THE LANCET, May 3rd, 1902, p. 1227) I have given a mere summary of results up to Case 155 at the end of February, 1902. Two of the cases described in that paper (Nos. 135 and 136) come within the present series.

By far the most important reason for operating upon a goitre is dyspnœa. In 177 cases, approximately two-thirds of the total number, this was the principal reason that led to the operation. With few exceptions dyspnœa which will not yield to milder remedies is the only reason that should lead a surgeon to urge an operation upon a goitrous patient. And let me here say that no degree of dyspnœa with which I am acquainted is too severe to permit of an operation for its relief. I have occasionally been told by medical men that So-and-so has a goitre which causes so much difficulty in breathing that no operation is to be thought of. But it is just in such cases that operation can do most good and should be most strongly urged. I have never on the ground of the severity of the dyspnœa refused to operate upon any case of non-malignant goitre, but I have in scores of cases of parenchymatous goitre declined to operate on the ground that there was not sufficient dyspnœa to justify operation or that the goitre could be more satisfactorily treated by the administration of iodine, iodide of potassium, thyroid extract, arsenic, or some other internal remedy.

I may here be permitted to express a strong opinion that the dyspnœa of innocent goitre is always caused by direct pressure upon the trachea. It has little or nothing to do with irritation of the recurrent nerves, an obsolete notion that should be given up. Further, the trachea is displaced or compressed by goitre according to definite and fixed rules, so that it is nearly always possible, by careful consideration of the nature, shape, and position of the goitre, to predict the position and shape of the compressed trachea. Thus a uniform enlargement of the thyroid gland produces a bilateral compression. A strictly unilateral goitre bends the trachea over to the opposite side and flattens it obliquely on the side of the tumour. Bilateral and asymmetrical goitres cause various forms of oblique flattening and often some rotation. A knowledge of the probable shape and position of the trachea is often important to the surgeon when sudden dyspnœa threatens life in the course of an operation. By pulling upon the tumour in this or that direction he can relieve the pressure. Perhaps more important is it to remember that he must be careful not to exert pressure or traction in such directions as to increase still more the compression of an already compressed trachea.

The next on my list of cases is *deformity*, which alone was the cause of operation in 33 cases, while in 47 others deformity associated with minor degrees of dyspnœa led to the operation. As a rule it is only in the case of young people and for encapsuled tumours that operation should be undertaken on the ground of deformity alone. In such cases it may fairly be stated that the operation is as nearly devoid of risk as any operation can be, provided that it be performed by practised hands and with due attention to details. In three cases only has operation been undertaken for patients over 40 years of age on the ground of deformity alone. Unilateral tumours situated well above the sternum are those which usually produce the greatest amount of disfigurement, and these are precisely the cases that can be operated upon with the greatest ease and safety. Some of the largest and most prominent goitres that I have had to deal with have been among the easiest of my operations.

Dysphagia is in itself rarely a prominent symptom of an innocent goitre, although its early occurrence is frequently a very valuable indication of malignancy. Dysphagia may, however, be a marked feature of those somewhat rare cases in which a small cyst or adenoma develops at the inner and back part of a lateral lobe. Being bound down by the layer of cervical fascia that passes from the back of the gland to the posterior aspect of the pharynx or œsophagus, and being in close proximity to the recurrent laryngeal nerve and the posterior ends of the tracheal arches, a tumour in this region even when quite small, no larger than a hazel nut, may cause rather severe symptoms of dysphagia, dyspnœa, and general discomfort. Cases 282 and 378 may be mentioned as examples.

Minor degrees of dysphonia, or even aphonia, occasionally occur in connexion with innocent goitre. When we consider the close anatomical relations which the recurrent laryngeal nerve bears to the thyroid gland it is, I think, somewhat remarkable that innocent thyroid tumours so seldom cause symptoms referable to this nerve. Tumours originating in the inner and back part of the gland occasionally seem to stretch and thus paralyse the nerve. Inflammation of a thyroid tumour will occasionally produce the same effect. Case 351 was that of a lady, aged 54 years, who had had for many years a solid adenoma as large as a hen's egg in the right thyroid lobe. For eight years she had had dysphonia and the right recurrent nerve was found to be completely paralysed. Resection-enucleation of the tumour completely relieved the rather severe dyspnœa from which she was also suffering, but the long paralysed nerve had not regained its function when I last saw the patient, seven months after the operation, nor is it likely that it ever will do so. On the other hand, when the dysphonia is of recent duration removal of the tumour will probably restore the nerve to its function, a matter of some importance to singers. Case 323 was that of a public singer who found that she was losing her voice. Resection-enucleation of a mainly substernal parenchymatous goitre weighing five ounces completely cured both dyspnœa and dysphonia and enabled her to resume her profession with success. Case 387 was that of a nurse, aged 30 years, with almost complete aphonia due to the pressure of a soft solid adenoma of the size of a small orange. Resection-enucleation cured her dysphonia and restored her voice. In neither of these two cases, however, was there any definite paralysis of the nerve. Several others of my patients have also told me that removal of the goitre had enabled them to resume singing.[3]

The *nature of the goitre* in the various cases is indicated in Table III.:—

TABLE III.—*Nature of the Goitre.*

		Cases.
Encapsuled—		
Solid adenoma	in	106
Cystic adenoma	,,	94
Pure cyst	,,	2
Hydatid cyst	,,	1
		203
Non-encapsuled—		
Parenchymatous	in	26
Adeno-parenchymatous	,,	28
Papilliferous	,,	10
Malignant	,,	7
		71
		274

For purposes of operative surgery it is extremely important to differentiate between cases of encapsuled tumour (cystic or solid) and those cases in which there is a more or less general enlargement of the whole gland (the parenchymatous or adeno-parenchymatous goitres). The former, as a rule, are best dealt with by some kind of intraglandular enucleation; the latter require the extracapsular operation of extirpation or some modification of this.

The terms solid adenoma and pure cyst explain themselves. It will be noticed that in the whole series there are but two cases of pure cyst. The 94 cases of cystic adenoma, however, include a good many cases that would probably by many surgeons be termed simple cysts. I have shown elsewhere[4] that nearly all thyroid cysts of considerable size begin as solid adenomata. These tend to break down and liquefy, usually in the centre, and as this process extends the tumour may eventually become a cyst with mere traces of the original adenoma adhering to the inner wall of what is now practically a cyst. The 94 cystic adenomata in my list include all stages of this degeneration, from the nearly solid adenoma with but little cystic degeneration up to nearly pure cysts. A pure cyst is one in which on careful examination no trace of the adenomatous tissue can be found adhering to its inner wall. It has a smooth inner surface like that of a hydrocele. In many of the solid adenomata the converse process of fibrosis may be observed, beginning often in the centre, where a star-shaped mass of dense fibrous tissue is to be seen. (See Case 284.) The average age of the 106 patients with solid adenomata was 37·89 years. The average weight of the tumour in the 64 cases in which the weight was recorded was 5·42 ounces.

Hæmorrhage into thyroid cysts and into the softer forms of solid adenoma is extremely common and is illustrated by many of my cases. Hæmorrhage into such a tumour is probably the commonest cause of sudden dyspnœa in a unilateral goitre. If the adenoma or cyst is already the cause of considerable dyspnœa a sudden increase in size from hæmorrhage may easily lead to most alarming and in some cases even rapidly fatal dyspnœa. Not many years ago a young woman who was attending the out-patient department of one of the large London hospitals for a unilateral

[3] Other cases of this class are 168, 177, 185, 216, 253, 271, 351, and 383.
[4] Transactions of the Pathological Society of London, 1896, vol. xlvi., p. 234, "On the Transformation of Solid Thyroid Adenomata into Cysts."

thyroid swelling, actually died on the doorstep of the hospital from sudden dyspnœa. The post-mortem examination showed an extensive hæmorrhage into an encapsuled tumour. A striking, but fortunately less serious instance, of sudden hæmorrhage causing dyspnœa is afforded by Case 294. A woman, aged 22 years, who was not aware of having anything wrong with her neck, was suddenly seized at midnight with alarming dyspnœa, for which she was seen shortly afterwards by Dr. H. Lambert Lack. He found a small substernal goitre which I enucleated a few hours later. The small tumour which was pulled up from behind the sternum is on the table before you, and it will be seen that it consists largely of extravasated blood. I find that in 17 of my cases it is definitely noted that blood extravasation was present, but the condition is such a common one that I have no doubt there were many other cases in which no special note was made of the occurrence.

The term *parenchymatous goitre*, although not free from objection, has been retained in this paper to include all forms of uniform and general enlargement of the gland except that of Graves's disease. It is the common form of goitre in young people. The average age of the patient in 26 operations of this class was only 21 years.[5]

Adeno parenchymatous are those goitres, originally purely parenchymatous, in which one or more adenomata are present. The tumours are imbedded in the goitre like pebbles in pudding-stone. As the adeno-parenchymatous is a later stage of the disease than the parenchymatous the average of 28 patients in my list with this variety of goitre was 33·33 years. The average weight of the tumour (recorded in 21 of these cases) was 5·86 ounces.

The situation of the goitre with regard to the sternum and thorax is a matter of much importance. Goitres situated well above the sternum are not as a rule dangerous unless they are bilateral or of very large size, and even then but rarely. But the nearer the goitre approaches to the thorax the more dangerous is the dyspnœa produced thereby, since a sudden swelling of the tumour or a sudden displacement of it in a confined space behind the sternum may cause very severe pressure upon the trachea. The most dangerous of all goitres is the rapidly growing bilateral goitre of young people situated quite low down behind the sternum. In such cases the trachea is apt to be greatly flattened, and it is soft and yielding and therefore easily compressed to a further and fatal degree. Such cases if attended with marked stridor and not yielding very quickly to medicinal measures should in my opinion always be submitted to operation. Unilateral goitres in this low situation occur as a rule in older subjects in whom the trachea is more resistant and less liable to collapse. Danger of sudden death in these cases arises mainly from hæmorrhage into the tumour or from the tumour being suddenly sucked downwards by inspiration into the upper opening of the thorax. Marked stridor with a substernal or intrathoracic goitre is nearly always an indication for operative interference. Among the most satisfactory cases in thyroid surgery are those extreme cases in which the main bulk of the goitre is actually engaged in the thorax itself: the intrathoracic goitres. The upper opening of the thorax, a hard bony ring formed by vertebral column, first ribs, and sternum, permits of no outward expansion of the goitre engaged within it. All the pressure of an enlarging goitre is therefore directed against the trachea and other structures which pass through this small oval ring. It may here be remarked that it is not uncommon for an elderly patient with a unilateral goitre to give the history that her goitre has been gradually getting smaller, while her dyspnœa (or asthma, as she often calls it) has been getting worse. This means that the tumour is descending towards the thorax. Case 243 is an excellent illustration of this.

Of non-malignant *intrathoracic goitres* there are seven in my list. Of these, the youngest (Case 231), a woman, aged 29 years, had only moderately severe dyspnœa, as the comparatively small intrathoracic goitre had not yet grown sufficiently to exert a dangerous degree of tracheal pressure. All the others (Cases 182, 232, 243, 248, 254, and 365), whose ages ranged from 37 to 38 years up to 56 and 60 years, had high degrees of dyspnœa and the relief afforded by operation was correspondingly great. All made excellent recoveries. I have not included among the intrathoracic goitres those in which the tumour was merely substernal—that is, engaged between the sternum and vertebral column, although many of these produced also severe dyspnœa; nor have I included any of those cases, common enough, in which the tip of the inferior horn (as in Case 312, for instance), although extending actually into the thorax, was not of sufficient size to cause injurious pressure there. One of these cases of intrathoracic goitre (Case 248) was of so remarkable a nature as to demand a more detailed description.

The patient, a man, aged 37 years, was sent to me by Dr. P. F. Barton of Wimbledon on account of gradually increasing dyspnœa of several years' duration and a thyroid swelling at the root of the neck. During the last three years he had had seven or eight attacks of more severe dyspnœa. Medicinal treatment had always succeeded in reducing the size of the swelling but never caused its complete disappearance. There was a general fulness of the root of the neck and the top of a swelling, evidently thyroid, could be felt rising up behind the sternum. There was great dilatation of all the superficial veins about the root of the neck and there was stridor on deep breathing and coughing. With the laryngoscope the trachea was seen to be displaced slightly to the left. The diagnosis made was "probably encapsuled tumour of right lobe, substernal." Operation was performed on May 3rd, 1904, when it was found that both inferior horns extended deeply into the thorax. A forefinger passed as far as it would go into the thorax on the right side felt a large rounded swelling well below the level of the first rib, but the lower border of this swelling could not be felt. An attempt was made to pull the tumour up out of the thorax but failed completely, as the tumour was too big and too solid to pass through the narrow bony opening. Attention was therefore directed to the left inferior horn where a similar but somewhat smaller tumour lay in the corresponding situation also within the thorax. This tumour was fortunately partly cystic, and after letting out some two ounces of fluid from it its size was diminished sufficiently to enable me to draw it up out of the thorax and to remove it by enucleation. Returning to the first tumour, some of its solid contents were scooped out with the finger and a calcified portion could be felt. This was seized from within by a long pair of forceps and the tumour, now much diminished in size, was finally dragged up and enucleated. The patient made a rapid and excellent recovery, being up on the third day, out of doors on the sixth, and on the ninth he returned to his home with a superficial granulating wound as large as a sixpence which soon healed. I hear from Dr. Barton that he is perfectly well and has had no return of his dyspnœa.

Coming now to the *nature of the operations*, these fall naturally into two main classes, as will be seen in Table IV.

TABLE IV.—*Nature of the Operation.*

Enucleation.	Innocent goitre.	Malignant goitre
Enucleation (simple)	107	1
Resection-enucleation ...	92	0
Evidement	3	0
Enucleation and evidement	2	0
Resection-enucleation and enucleation	4	0
	208 (with 1 death)	1 (with 1 death)
Extirpation.		
Extirpation (simple)	19	6
Resection-extirpation ...	33	0
Resection	1	0
Resection and extirpation	1	0
Extirpation and enucleation	2	0
Resection-extirpation and enucleation	1	0
Resection-extirpation and resection-enucleation ...	2	0
	59 (with 2 deaths)	6 (with 2 deaths)
Total { Innocent goitres ...	267 (with 3 deaths)	} 274.
Total { Malignant ,, ...	7 (,, 3 ,,	} 274.

When an encapsuled tumour is present the operation of choice is intraglandular *enucleation*. When the goitre occurs in the form of a more or less general enlargement, then the extraglandular operation of extirpation must be chosen. When numerous small encapsuled tumours are present in an otherwise parenchymatous goitre extirpation is usually to be preferred. The largest number of encapsuled tumours that I have enucleated at any one operation has been six (Case 337).

It is important to bear in mind that an encapsuled tumour,

[5] Excluding five rather exceptional cases of women aged 30 years or more, the average age of the remainder was 18·38 years (of nine males, 18·44; of 12 females, 18·33 years). The average weight of the goitre removed in 25 of these cases was 7·83 ounces, just under half a pound.

however large, however prominent, and however superficial it may appear to be, never makes its way through its covering of gland tissue. It is always covered by an expanded and more or less thinned and atrophied layer of gland tissue. This layer, which is often no thicker than tissue paper and may closely resemble a layer of fascia, must be cut through before enucleation can be performed. The region of safety is inside this glandular capsule, not outside it. When this layer of gland tissue is very thin or adherent, as it often is, to the front of the tumour it may be difficult to separate it from the surface of the tumour itself. For such cases it may be better to incise the capsule at the upper or lower border of the tumour, where the gland tissue is thicker and more easily separated from the underlying tumour. The tumour itself can usually be readily recognised by its colour, which is almost always quite different from the maroon red colour of the comparatively healthy gland.

A very important modification of enucleation, and one which I now almost always employ for encapsuled tumours, especially when they are large, is *resection-enucleation*. After exposure of a lateral lobe it is dislocated forwards (whenever possible) and an incision made through the glandular capsule till the tumour is reached. This is then enucleated on its inner and posterior aspects and the glandular layer is again divided. The tumour is then removed together with a large part of the thinned, atrophied, and functionally useless layer of gland tissue covering it. By this means the area of enucleation from which bleeding takes place can be greatly diminished, a point of much importance. Care must be taken in incising the gland to avoid cutting the recurrent laryngeal nerve which may be displaced laterally to a certain extent. After removal of the tumour the cut edges of the gland are usually drawn together and united by sutures so as to diminish still further the area of wounded gland tissue.

Evidement is a proceeding of but little importance. It consists in cutting the tumour across and scraping out its contents from the inside. It is chiefly applicable to soft solid tumours with very thin walls which may be difficult to enucleate satisfactorily. It is also occasionally required for fixed adherent tumours which cannot be lifted out of the glandular bed in which they lie.

It is scarcely necessary, I think, to describe so well known an operation as that of *extirpation*. I would merely say that it is important in this operation that all vessels of appreciable size should be tied or clamped before they are cut and before any attempt is made to remove any part of the gland. Especially important is it to tie securely the veins at the lower horn of the gland. A cut and unsecured vein in this region will retract deeply into the cellular tissue at the root of the neck and it may be exceedingly difficult to find it again. Moreover, blood extravasated into the cellular tissue of the neck or mediastinum is prejudicial to the healing of the wound. Throughout this operation the surgeon should, in my opinion, proceed deliberately and carefully and see exactly what he is doing at each stage of the proceeding. I may add that the superior thyroid artery and vein should be tied at an early stage of the operation. With regard to the inferior thyroid artery, I have almost wholly abandoned the practice of tying the main trunk of this artery in its continuity and prefer to clamp and to tie the branches after its division and beyond the point where it is crossed by, or crosses, the recurrent nerve.

I need hardly say that *resection-extirpation* bears the same relation to extirpation that resection-enucleation does to enucleation. Instead of dissecting the inner and back parts of the gland away from the trachea, œsophagus, and recurrent nerve the knife is carried boldly through the gland, and this portion of it is left behind. This proceeding has the double advantage not only of avoiding the dangerous region of the recurrent nerve but also of leaving behind enough to carry on the function of the gland on that side and to fill up the unsightly hollow that would otherwise be left in this part of the patient's neck.

Coming now to the consideration of certain points common to all thyroid operations the important question of *anæsthesia* may first be discussed. I venture to think that if due care be exercised in the administration a general anæsthetic may be given in most cases, exceptions being made in certain cases where high degrees of tracheal stenosis and cyanosis are present. In five cases only of the present series was a general anæsthetic dispensed with. Whenever possible the services of a skilled anæsthetist should be obtained for all but the simplest of thyroid operations. The anæsthetic should always be administered in the room in which the operation is to be done and not in any side room. The preparatory dressing on the neck should be loosened and the operator be quite ready to begin the operation instantly should sudden respiratory difficulties require him to do so. Immediate and rapid operative interference is occasionally required even in cases where no unusual difficulty has been anticipated (Case 144).

Chloroform has been the anæsthetic employed in nearly all cases, sometimes combined with ether. I am aware that some operators prefer ether administered by the open method, and there is much to be said for the practice. The nature of the anæsthetic is, however, of less importance than the method of administration. Deep anæsthesia is dangerous. It is enough if the patient is insensible to pain, and especially to the pain of the first incision. Anæsthesia should be induced very slowly and carefully, and a minimum of anæsthetic should be employed. The various anæsthetists who have given me the benefit of their services in these operations have often told me that not more than two or three drachms of chloroform have been employed in the whole course of the operation. Towards the end of the operation, and before the wound is closed, the anæsthesia should be so light that at a given signal the patient can be made to retch and strain and thus test the efficacy of the hæmostasis. In the course of an extensive operation a small vein may easily escape ligature, and in the movements of vomiting that occur after the patient has returned to bed sufficient hæmorrhage may take place into the wound to endanger the rapid healing of the wound, if not actually the life of the patient. The main danger of a thyroid operation is *post-operative venous hæmorrhage*. If hæmorrhage is going to occur it is best that it should take place while the wound is still open and while it can easily be dealt with. The *position of the patient* should be that of semi-recumbency with the head thrown back as far as the anæsthetist will permit. Occasionally the operation has had to be performed with the patient sitting nearly bolt upright (e.g., Case 186).

A curved transverse *incision* very low down in the neck, in the situation usually occupied by a necklace, is the incision that I now almost invariably employ (see Table IV.A). The results as regards the scar are infinitely better than when any other form of incision is employed. This is a matter of much importance to ladies who desire to wear a low dress. Skin and platysma are dissected up and some division of the infrahyoid muscles is generally made high up in the neck. The musculo-fascial layer is then split in the middle line nearly down to the sternum, so that the drainage-tube may afterwards lie in the correct position. The infrahyoid muscles are sutured towards the close of the operation. *It is important that the wound should be kept covered with layers of wet gauze as far as possible throughout the operation* to diminish risk of wound infection. Rubber gloves should always be worn by the operator and by all who take part in the operation. Very fine silk boiled immediately before use has been used for all ligatures and sutures except those of the skin.

As is shown in Table IV.B I have come to employ drainage more and more frequently. A study of the temperature charts of the whole series lying on the table before you will,

TABLE IV.A.—*Skin Incisions.*

Oblique	31
Curved transverse	240
Vertical	1
Angular	1
Y-shaped	1
	274

Of the last 180 only 4 were oblique, 1 was Y-shaped, and 175 were transverse.

TABLE IV.B.—*Drainage of Wounds in the Last 300 Operations.*

Nos.	Drainage.	No drainage.	Not noted.
101–200	69	31	0
201–300	86	13	1
301–400	94	6	0
Totals	249	50	1

I think, bear out my contention that the wounds heal more quickly and more satisfactorily if drainage be employed for a short time. After all large goitre operations there is for some hours a considerable exudation of blood-stained serum and colloid. It is better that this should drain away rather than be left in the wound to be absorbed or to be a source of subsequent trouble. On the other hand, prolonged drainage is usually unnecessary and harmful. My usual practice now in all cases, except trivial ones, is to drain with a single rubber tube (two sometimes if the operation has been bilateral) placed usually in the episternal notch. This is almost invariably removed at the end of from 18 to 24 hours and a very slender strip of sterile gauze is usually inserted for another 24 hours. Occasionally, when there is much secretion from the wound the tube or gauze may have to be kept in a day or two longer.

In most cases the lowest part of the wound will be found to lie to some extent below the level of the upper border of the clavicle or sternum, and in cases of substernal or intrathoracic goitre a very large space may be situated here which is difficult to drain. It is remarkable, however, how quickly such cavities contract and fill up if they be drained only for a day or two. The most troublesome of such cases are those of old people in whom the parts are more rigid and in whom fibrosis and calcification of the remaining parts of the thyroid may hinder due contraction of the wound. If drainage seems difficult much may be done by postural methods. Sitting up in bed, lying on one or other side may favour drainage. Frequently on the day after the operation the patient is laid flat in bed and then rolled over on to the face for a few minutes two or three times a day. In cases where more prolonged drainage is necessary the frequent assumption of the genu-pectoral position is a great help. After operation patients sit up in bed from the beginning, except in cases where the operation has been unusually severe or the patient is old and likely to be faint. In such cases the patient may lie on the side opposite to that from which the goitre has been removed. Patients usually get out of bed for an hour or two on the evening of the day following the operation, and most patients are quite well by the middle of the second week or sooner. Stitches are removed on the fourth day. The cut edges of the platysma are united at the time of operation by buried sutures.

Table V. shows the results of the operations as regards the healing of the wounds.

TABLE V.—*Healing of Wound.*

	In 267 non-malignant cases.	In malignant cases.
(1) Immediate healing by primary union ...	232	3
(2) Primary union except in track of drain; healing in from 10 days to 3 weeks	11	1
(3) Secondary union after drainage and gauze packing; healing in from 12 days to 5 weeks ... ... [4 of these intrathoracic (Cases 182 243, 248, and 254), 1 operation during insensibility from asphyxia (Case 13).]	7	—
(4) Apparent primary union; late mild suppuration after leaving hospital, home, &c.; eventual complete healing	8	—
(5) Mild suppuration, chiefly superficial, stitch abscesses, &c., in hospital or home; healing in from a few days to 2 months...	5	—
(6) Rather profuse suppuration and sinus for several weeks, then complete healing (Case 272)	1	—
(7) Died	3	3
	267	7

Complications of any kind are rare; they have all been recorded in the accompanying statistical tables.[6] The only serious complication occurring during the operation was an unfortunate accidental wound of the crico-thyroid membrane (Case 159). This took place in the separation of the larynx from a large trilobed parenchymatous goitre in which it was buried. A septic element was thus introduced into the extensive wound, necessitating open treatment, and the patient died from pleurisy on the eleventh day. The portion of the goitre removed weighed 22 ounces. One patient (Case 244), a stout elderly gentleman with a partly substernal goitre and considerable dyspnœa, had some bronchitis for a few days after the operation, and for five days his temperature was over 100° F. He then made a rapid and excellent recovery and left the nursing home on the twelfth day after the operation. In one case (Case 358) recurrent venous hæmorrhage, after removal of a deeply seated solid adenoma, made it necessary to open up the wound 19 hours after operation and to remove a handful of clot. The wound was packed with gauze and the patient made a good recovery; the temperature never rose above 100·2° at any time. In one other case (Case 209) some hæmorrhage from a subcutaneous vein occurred when the drainage tube was removed on the day after the operation. The wound was partly reopened and the vein tied without any difficulty. In three other cases a little blood collected in the wound and delayed its healing a few days. In one case the same cause led to some suppuration and a sinus lasting for several weeks. None of these last six cases were seriously ill at any time. In two cases mild inflammation of the wound led to its being reopened and drained on the second and seventh days respectively. In two cases only was any damage inflicted on a recurrent laryngeal nerve: in one of these part of a recurrent nerve was intentionally removed, being involved in a hard papilliferous tumour, believed to be malignant; in the other mild suppuration after enucleation of a cystic adenoma was found five months later to have caused paralysis of one cord. The larynx is examined in all cases both before and after operation. One patient was the subject of acromegaly at the time of operation, but this made no difference to the satisfactory healing of the wound.

Neither cachexia strumipriva (myxœdema) nor tetany has occurred in any case. All patients are now asked to report themselves periodically and an attempt has been made to ascertain the subsequent history of each case. Most of the earlier cases were examined and reported on in 1906 and the later ones at various times during the present year. The date at which each patient was last seen is recorded in the tables. 15 patients I have been unable to trace; in all of them the wounds healed by first intention, and I have no reason to suppose that any of them are at the present time in any other condition than that of perfect health.

Among the 267 non-malignant cases there were three deaths: of these one has already been narrated; the other two were from cardiac failure shortly after the operation. One was No. 288, a boy, aged 17 years, admitted with a large bilateral parenchymatous goitre and chronic severe dyspnœa. More than a year previously his medical attendant, Mr. N. F. Kendall, of Chiddingfold, had urged him to have the goitre removed. But he had delayed and delayed until he had reached the last stage of chronic dyspnœa and his heart had begun to fail. At the operation, which was done under local anæsthesia, the tracheal walls were found to be almost in contact, only a narrow chink at the anterior part permitting any passage of air. Very little blood was lost, but just after the tumour had been removed he collapsed and died. The other, No. 363, was a female patient aged 68 years, with a small substernal cystic adenoma of many years' duration. She became rapidly worse during the three days that elapsed between my first seeing her and the time of the operation. Just before the operation she was in very bad condition, with a feeble and rapidly failing heart. The operation was short and easy and attended by very little hæmorrhage. Only two drachms of chloroform were administered during the half-hour which the operation took to perform. She had been carried back to her bedroom and placed in her bed when she suddenly collapsed and died from cardiac failure without any sign of respiratory distress. One other case (No. 135) died from another disease (carcinoma of the lung) before leaving the hospital. But as she had recovered completely from the operation I have felt justified in not placing this case among those of death from the operation. This case has already been recorded in THE LANCET, May 3rd, 1902.

Malignant disease of the thyroid is but rarely seen at a period when it is suitable for operation and the results of operation are most unsatisfactory. Only seven patients out of a large number seen were submitted to operation. (Cases 162, 165, 175, 194, 233, 347, and 384.) Three were advanced cases in which operation was undertaken only in the hope of relieving urgent and severe symptoms; one of these was intrathoracic and it was found after death that the growth had actually penetrated the trachea; all three died. In the other four the tumour was moveable and there seemed a reasonable prospect of effecting a complete removal of the disease. In all the wounds healed quickly and well, but in

[6] The paper was accompanied by statistical tables (too long for publication here) giving details of each of the 274 operations and their immediate and remote results.

three of them recurrence took place sooner or later. Case 194, a case of round-celled sarcoma, died at home three months after operation; Case 175, a spindle-celled sarcoma, was seen to be in good general health ten months after operation but died at home five months later. Case 347, a case of carcinoma attacking a large parenchymatous goitre, was greatly relieved and remained well for about nine months; hæmorrhage and other signs of recurrence then took place and he is now, 12 months after the operation, again suffering severely from dyspnœa. The fourth patient, operated on only four months ago, is still well and able to do his work as a farm labourer. These cases form but a gloomy record.

It will be seen that no cases of *genuine* exophthalmic goitre have been treated by removal.[7] The list includes, however, at least ten cases of goitre with palpitation, tremulousness, and other symptoms often found with simple goitre as well as with Graves's disease. Such as these are by many classed as incomplete cases of Graves's disease (the so-called "formes frustes"). The advisability of the removal of the goitre of true Graves's disease is, in my opinion, still an open question. The risk of operation in true Graves's disease is undoubtedly very serious; the ultimate benefits, so far as I can learn, are by no means certain or lasting. Those who appear to have had fairly satisfactory results from the removal of goitre in cases of genuine Graves's disease are apparently very careful in the selection of the cases they submit to operation. On the other hand, operation in cases of so-called "formes frustes" yields excellent results, as might be expected. Detailed statistics of a long series of operations upon genuine exophthalmic goitres, giving the exact condition of each patient before and some time after operation, are much wanted.

Conclusions.—Operations for innocent goitre yield admirable results and afford as a rule complete relief from all symptoms. The operation is, however, a delicate one and should not be undertaken lightly or without due attention to important details. Special attention should be paid to anæsthesia and asepsis, to the careful arrest of all hæmorrhage (especially venous), to the recurrent nerve, and to drainage for a short time. In most operations it is best not to remove that portion of the goitre that lies next to the œsophagus, recurrent nerve, and side of the trachea. The patient should be encouraged to be up and about within a very few days of the operation.

Wimpole-street, W.

[7] Three cases have been treated by ligature of thyroid arteries but they do not come within the scope of the present paper.

COMPARATIVE RESEARCHES ON THE TRYPTIC STRENGTH OF DIFFERENT TRYPSIN PREPARATIONS AND ON THEIR ACTION ON THE HUMAN BODY.

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As a rhino-laryngologist I have only too often had occasion to observe cases of inoperable malignant new growths in the upper part of the air and food passages. It was the feeling of concern induced by the hopelessness of these cases that led me some time ago to try the treatment by pancreas ferments, recommended by Beard. When more than eight months ago I began the trial I felt at once convinced that in order to provide a firm scientific base for the experiments one of the chief conditions was the determination of the strength of the preparations recommended, especially the strength of the trypsin preparations, as all the advocates of the treatment agree in attributing the greatest importance to these, Beard at the same time asserting the necessity of additional injections of amylopsin.

If it should really prove feasible to arrest malignant new growths by means of trypsin it would seem obvious that the strongest preparation which the patient could tolerate ought to be employed. I have therefore endeavoured, in the first place, to find out this preparation by a comparative examination of those placed on the market; and, secondly, in making the comparison to use a method which would be at the same time expeditious, exact, and practicable for medical men remote from well-equipped laboratories. My researches have chiefly been occupied with the preparations designed for subcutaneous injection, as all authorities who have tried the method (the school of von Leyden excepted) regard this manner of application as the most efficacious.

Strangely enough, it seems that no extensive comparative investigation of this kind has yet been published, though a control of the preparations is evidently an absolute necessity, as there does not exist any generally accepted tryptic unit. The manufacturers have consequently been unable to estimate the strength of their preparations in such a way that selections could be made among them according to the object in view. In those cases where the strength is stated the estimations are quite incommensurable. Zanoni[1] states, for instance, and Donati[2] corroborates the statement, that from two to three cubic centimetres of his preparation will in a very short space of time digest from 0·5 to 1 gramme of fresh fibrin. One cubic centimetre of the "ordinary" Fairchild preparation, recommended by Beard, is said to peptonise 100 cubic centimetres of milk to a bitter taste in five or six minutes.[3] Messrs. Squire and Sons send out preparations marked Standard I.—III. and stated to contain respectively 250, 500, and 1000 tryptic units. I have unfortunately been unable to ascertain their definition of a tryptic unit.

As is well known, two phases may be distinguished in the action of trypsin. Like pepsin, it first converts the proteids into proteoses and peptones, which are subsequently rapidly split up into less complex compounds, such as hexon bases. When pepsin is allowed to act for only a short time it would seem that the last-mentioned phase fails to appear. If now the proteid-changing activity of a trypsin preparation is to be studied the investigation may have reference to either the first or the second phase. As, however, it is unknown whether a preparation, which acts strongly in the first phase, will also show great efficacy in the second (though this is perhaps probable), and as it is equally unknown whether it is the decompositions characteristic of the first or of the second phase that may be of importance for the treatment of malignant new growths, I have examined both stages of the activity for all the preparations designed for subcutaneous injection that are, to my knowledge, in the market. For one preparation (that of Messrs. Raimes, Clark, and Co.) I have only examined the first stage, the quantities placed at my disposal at one time having been too small to allow an estimation of the activity in the second stage. The preparations examined were as follows: 1. Tripsina (G. Zanoni, Milan). This was a yellowish, alkaline fluid, holding in suspension a quantity of small shining scales. It did not contain any preservative. It was kindly placed at my disposal by Dr. Zanoni. 2. Pankreatin-Lösung (Herren Freund und Redlich, Berlin). One sample of this was turbid and slightly acid (amphoteric?). Another sample was nearly limpid and contained chloroform as a preservative. 3. Injectio Trypsini (regular) (Messrs. Fairchild Brothers and Foster, New York). This was slightly acid, limpid, and yellowish; it contained great quantities of glycerine. According to a communication received from Messrs. Burroughs, Wellcome and Co., the London agents of the American firm, this solution is of the same strength as the "special injection" recommended by Beard. 4. Azoules of compound solution of trypsin (Messrs. Allen and Hanbury's, London). The fluid put up in this form was yellow, limpid, and alkaline; it had a sweet taste (glycerine?). 5. Sterilette trypsin comp. (Standard II. and III., Messrs. Squire and Sons, London). This was yellow, limpid, and alkaline, with a peculiar smell somewhat like phenol (preservative?). 6. Inject. trypsin et amylopsin (Messrs. Raimes, Clark, and Co., Edinburgh). This was yellow, limpid, and alkaline. It did not contain any preservative. The sample was kindly placed at my disposal by the firm. I must mention with praise the fact that the mode of manufacture has been published for Zanoni's injections.[4] According to a communication received from Freund und Redlich their preparation is made according to the method described by von Leyden and P. Bergell.[5]

[1] G. Zanoni: La Tripsina, Fermento Solubile Proteolitico del Pancreas per la Cura del Cancro, Gazzetta degli Ospedali e delle Cliniche, 1906, No. 33. Estratto, 7 pp.

[2] Mario Donati: Contributo alla Cura dei Tumori Maligni mediante Iniezioni di Tripsina, La Riforma Medica, 1907, pp. 225–229.

[3] Letter to the author from Messrs. Fairchild Bros. and Foster, London, March 14th, 1907.

[4] G. Zanoni: Preparazione della Tripsina per la Cura del Cancro, colla "Tyndalizzazione Alcoolica," Gazzetta degli Ospedali e delle Cliniche, 1906, No. 30, pp. 309–310.

[5] E. von Leyden und Peter Bergell: Ueber die therapeutische Verwendung des Trypsin (Pankreatin) bei Karzinom, Zeitschrift für klinische Medizin, Band lxi., 1907, S. 360 365.

For the other injections the mode of manufacture is unknown to me.

In examining the first phase of the action I followed the method of Fermi,[6] utilising the property of trypsin by which it liquefies solid gelatin. The detailed arrangement of the experiments was the one used by Th. Madsen[7] and Dreyer in their researches on enzymes. As these researches have shown, the method is very sensitive and exact. In my experiments I have not required to use the full sensitiveness of the method.

The substratum for the tryptic action is a solution of gelatin of 10 per cent. strength; it is made slightly alkaline, and 0·1 per cent. of thymol is added. The solution is liquid at 37° C., is solid at the ordinary temperature of a room, and keeps indefinitely. It is of course necessary to cork the bottle that contains the gelatin in order to prevent loss of water causing the substratum to change. It is best to prepare a somewhat large quantity at once—two litres will amply suffice for many experiments—as perhaps otherwise the different experiments cannot be compared with each other. My researches have shown that solutions of 10 per cent. strength made with gelatin obtained from different sources are not equally acted upon by the same trypsin preparation. The varying alkalinity of the solutions and the varying quantity of salts contained in them are important in this respect.

For the experiments a number of small test-tubes must be provided, such as are in use for the macroscopic Widal test. Accurate measuring flasks of 50 and 100 cubic centimetres capacity and pipettes of one cubic centimetre capacity graduated in hundredths of a cubic centimetre and of two cubic centimetres capacity graduated in fiftieths of a cubic centimetre are also required. By means of these instruments it is possible quickly and exactly to make a great many different dilutions of the preparation in question, proceeding in the way illustrated in Table I. Into each of a series of the small test-tubes there is measured one cubic centimetre of different suitable dilutions of the trypsin preparation diluted with sodium chloride solution of 0·9 per cent. strength. To each of the tubes there are then added 1·5 cubic centimetres of the gelatin solution liquefied by having been kept for a time in the thermostat. The addition of gelatin should begin with the tubes containing the weakest trypsin solutions. All the tubes are then placed for an hour in the incubator at a temperature of 37° C., so that their contents are entirely liquid, whereupon they are shaken in the order mentioned just before and subsequently left undisturbed in the incubator. From this they are removed after 24 hours and placed for an hour in a large water-bath, the temperature of which I have kept from 12° to 13° C. in my experiments. If the dilutions of the preparation have been suitably chosen it will then be observed that the contents of some of the tubes remain liquid, while the gelatin in the rest of the tubes has become solid. Control tubes containing one cubic centimetre of sodium chloride solution of 0·9 per cent. strength and 1·5 cubic centimetres of gelatin solution (consequently without trypsin) always showed solid contents after being in the water-bath, even when they had been kept corked for two months or more in the incubator. The weakest concentration which has in the given circumstances been able to liquefy the gelatin is taken as an indication of the tryptic strength of the preparation examined.

Probably a glance at Table I., reproducing one experiment, will help to explain the method better than a long description. The sign + means that the contents of the corresponding tubes remained liquid after being in the water-bath, while the sign O means that the contents became solid, so that it was impossible to empty the tubes by turning them upside down.

The method once chosen, it is necessary to follow it exactly, especially also with respect to the intervals of time. I have observed in a series of experiments that the time necessary for the liquefaction of gelatin by trypsin is inversely proportional to the quantity of active principle present, or, in other words, that the liquefying action of trypsin on gelatin increases proportionally to the time. Thus, if a dilution having the strength 1 in 25,000 is able to liquefy the gelatin in 24 hours, the contents of the tube with the dilution 1 in 50,000 will remain liquid after a stay of 48 hours in the incubator, 96 hours being needed for the tube with the dilution 1 in 100,000. Consequently my researches corroborate the findings of Th. Madsen and Walbum.[8] For instances of this law I refer to Tables I. and II.

TABLE I.—*Trypsin, Allen and Hanburys.*

Tube No.	Contains the quantity in c.c., indicated below, of				Trypsin dilution resulting.	After 24 hours.	After 2×24 hours.	After 3×24 hours.	After 4×24 hours.
	0·9 p.c. NaCl solution.	Trypsin dilution 1 : 100.	Trypsin dilution 1 : 1000.	Trypsin dilution 1 : 10,000.					
1	0	1	—	—	1 : 100	+			
2	0·5	0·5	—	—	1 : 200	+			
3	0·8	0·2	—	—	1 : 500	+			
4	0·9	0·1	—	—	1 : 1000	+			
5	0·3	—	0·7	—	1 : 1429	+			
6	0·5	—	0·5	—	1 : 2000	+			
7	0·6	—	0·4	—	1 : 2500	+			
8	0·7	—	0·3	—	1 : 3333	+			
9	0·85	—	0·15	—	1 : 6667	+			
10	0·9	—	0·1	—	1 : 10,000	+			
11	0 0	—	—	1	1 : 10,000	+			
12	0·3	—	—	0·7	1 : 14,286	+			
13	0·5	—	—	0·5	1 : 20,000	+			
14	0·6	—	—	0·4	1 : 25,000	+			
15	0·7	—	—	0·3	1 : 33,333	O	+		
16	0·75	—	—	0·25	1 : 40,000	O	+		
17	0·8	—	—	0·2	1 : 50,000	O	+		
18	0·85	—	—	0·15	1 : 66,667	O	O	+	
19	0·9	—	—	0·1	1 : 100,000	O	O	O	+
20	1	—	—	—	Control.	O	O	O	O

TABLE II.—*Trypsin, Zanoni.*

Tube No.	Contains 1 c.c. of trypsin dilution.	After 24 hours.	After 2 × 24 hours.	After 3 × 24 hours.	After 4 × 24 hours.	After 5 × 24 hours.	After 6 × 24 hours.
1	1 : 1000	+					
2	1 : 1429	+					
3	1 : 2000	O	+				
4	1 : 3333	O	+				
5	1 : 5000	O	O	O	+		
6	1 : 7692	O	O	O	O	+	
7	1 : 10,000	O	O	O	O	O	+
8	Control.	O	O	O	O	O	O

In Table III. I have given a conspectus of the results of my numerous experiments. The fractions 1 : 400, 1 : 1429, &c., in the third column signify that one cubic centimetre of a corresponding dilution of the preparation examined has been able to prevent 1·5 cubic centimetres of gelatin from becoming solid after the stay in the water-bath. These results are interesting in several respects. First, they show that preparations obtained from different makers vary exceedingly in strength. Thus the strongest of the preparations examined was 400 times more active than the weakest one. The feeble action of the preparations obtained from Zanoni and from Freund und Redlich was very striking. This discovery has induced me to doubt whether it was really the proteid-converting faculty of the preparation which led to a successful result in the case of recurrent sarcoma reported by Donati.[9] I think that this element of uncertainty is much to be regretted, as amongst those cases which have been interpreted as proofs of the efficacy of the treatment this one appears to me to have been perhaps the best observed. Furthermore, I may mention that Donati's patient also underwent arsenical treatment.

Secondly, Table III. shows that even the preparations of the same class may present considerable differences in

[6] Claudio Fermi und Buscaglioni: Die proteolytischen Enzyme im Pflanzenreiche, Centralblatt für Bakteriologie, &c., II. Abtheil., Band v., 1899, S. 24 et seq.

[7] See, for instance, Svante Arrhenius: Immunochemie, Leipzig, 1907, S. 203, passim.

[8] Ibid., S. 50–51.

[9] Mario Donati: Loc. cit.

strength. In one brand (No. 2) one of the supplies was even between 30 and 40 times stronger than another one. Samples of the same supply presented as a rule but small differences. Considering the great technical difficulties to be surmounted in the making of sterile enzyme solutions it is, however, not surprising that preparations of the same class may fail to prove of uniform strength. In order to secure the most trustworthy results possible I have received all the preparations directly from the makers and carried out the experiments very soon after the arrival of the samples. The preparations have always been kept in an ice-safe, from which light was excluded.

TABLE III.

Preparation.	Number of determinations.	Active dilution.	Notes.
1. Trypsin, Zanoni ...	3	1 : 400	One supply.
	2	1 : 1429	Two other different supplies of same date of manufacturing.
2. Trypsin, Freund und Redlich ...	1	1 : 143	Two different supplies.
	1	1 : 5000	
3. Trypsin, Fairchild Bros.	2	1 : 14,286	Same supply.
4. Trypsin, Allen and Hanburys	1	1 : 25,000	
5. Trypsin, Squire and Sons, Standard II. ...	2	1 : 14,286	One supply.
	5	1 : 20,000	Three other different supplies.
	6	1 : 25,000	
6. Trypsin, Squire and Sons, Standard III. ...	1	1 : 20,000	One supply.
	3	1 : 33,333	Two other different supplies.
	1	1 : 66,667	A fourth supply.
7. Trypsin, Raimes, Clark, and Co. ...	4	1 : 10,000	Two different supplies.
	1	1 : 14,286	A third supply.
	2	1 : 20,000	
	1	1 : 25,000	A fourth supply.

All the preparations turned out to be sterile as claimed. The lack of uniformity of strength which I have found even in the best and most trustworthy preparations makes it evident that the medical man must necessarily test for himself the preparations which he employs.

As Beard is of opinion that the trypsin injections ought to alternate with, or at a given time to be replaced by, injections of amylopsin free from trypsin, I have examined the *tryptic* strength of the only two amylopsin preparations that to my knowledge are in the market. Both of them are stated to be free from trypsin. On inquiry Messrs. Squire and Sons have informed me that their amylopsin preparation contains less than one of their tryptic units. The two preparations examined were as follows. 1. Injectio amylopsini (Messrs. Fairchild Brothers and Foster). It was nearly colourless and slightly acid; it had a sweet taste (glycerine?). 2. Sterilette amylopsin (Messrs. Squire and Sons). It was yellow and alkaline and had a peculiar smell similar to that of phenol (preservative?).

The surprising result of my examination is to be found in Table IV.

TABLE IV.

Preparation.	Number of determinations.	Active dilution.	Notes.
1. Amylopsin, Fairchild Bros.... ...	1	1 : 10,000	Two different supplies.
	1	1 : 14,286	
2. Amylopsin, Squire and Sons	2	1 : 25,000	Two different supplies.
	1	1 : 33,333	
	2	1 : 40,000	A third supply.
	1	1 : 50,000	

This fact that preparations stated to be free from trypsin turned out to possess a highly pronounced power of liquefying gelatin appeared to me so strange that I was induced to consider the possibility of their containing substances, unknown to me, enabling them to liquefy gelatin in the extreme dilutions indicated in the table without converting the proteids into proteoses and peptones—in other words, without being enzymes. Of course, I had no knowledge of substances possessing this property but I did not venture to deny the possibility of their existence. Information about the way in which the makers had assured themselves of the absence of trypsin from their preparations would therefore have been welcomed by me but such information was unfortunately not available. But if it be admitted as possible that the amylopsin preparations contained unknown substances able to liquefy gelatin without being proteid-converting enzymes it would likewise *eo ipso* become possible that these substances were responsible for some of the "tryptic" power of the trypsin preparations when determined by the method in question. Even if other reasons stated above had not already decided me to examine the preparations with respect to the second phase of the tryptic activity I should therefore have been obliged to do so in order to solve the doubt caused by the result of the amylopsin experiments.

The method which I have employed for the second stage of the tryptic activity is, with slight alterations, the one originally used by Weis.[10] Westergaard of Edinburgh has proposed to use it for the estimation of the tryptic strength in absolute units and some time ago was kind enough to send me the manuscript of the paper (not yet published) in which he makes this proposal.

The substratum for the tryptic action is the proteid contained in the seeds of wheat and described by Kjeldahl[11] who named it glutin. It possesses the great advantage of forming a dry powder of constant composition and characteristic solubility, so that it is excellently adapted for comparative researches. I obtained the glutin used in my experiments from Messrs. Raimes, Clark, and Co., of Edinburgh.

The whole quantity of the enzyme preparation needed for the experiment (9 or 10 cubic centimetres) is collected and well mixed in a glass-stoppered bottle. This is necessary because the preparations designed for subcutaneous injections are generally sold in small hermetically sealed glass ampoules containing one cubic centimetre, and my researches on the activity of the preparations in the first phase have shown that there may be small differences in strength between the contents of different ampoules of the same supply. One cubic centimetre of this mixture of enzymes was employed for the estimation of the strength in the first stage by means of gelatin experiments as above (two parallel estimations which always gave identical results). With the remainder of the mixture I proceeded in the following way. I weighed off 20 centigrammes of glutin into each of four Geissler's glass-stoppered measuring flasks of 50 cubic centimetres capacity, numbered from 1 to 4. I then added to each of the flasks numbered 1 and 2 two cubic centimetres of the enzymic mixture and 18 cubic centimetres of distilled water at 37° C.; in each of the flasks numbered 3 and 4 there were placed only 20 cubic centimetres of distilled water at 37°. All four flasks were kept for three hours in the incubator (37° C.) and on removal were rapidly cooled down; this is important in order to make the subsequent precipitation complete. To each of the flasks numbered 1 to 4 there were immediately added five drops of a solution of sodium acetate of 5 per cent. strength (this is important for the same reason as above) and 10 cubic centimetres of a tannic acid solution of 5 per cent. strength; to each of the flasks numbered 3 and 4 further two cubic centimetres of the enzymic mixture were added. All four flasks were filled up with distilled water of ordinary room temperature to the mark and shaken gently, as, for instance, by turning the flasks upside down ten times. Then the flasks were left undisturbed at the ordinary temperature of the room until next day to allow the precipitate to subside. This precipitate contained all the proteids proper, *plus* the proteoses and the peptones.[12] On the next day the contents of the flasks were filtered. Only in the examination of one preparation (that of Allen and Hanburys) repeated filtration was necessary on account of the filtrate remaining turbid. In the next place, 25 cubic centimetres of the filtrate from each of the flasks containing the less complex nitrogenous compounds were evaporated after addition of one cubic centimetre of concentrated sulphuric acid until a thick black-brown fluid was formed. The quantity of nitrogen was then determined by the Gunning-Arnold modification of Kjeldahl's analysis.[13] Then the numerical values for the flasks 1 and 2 and for the flasks 3

[10] Fr. Weis: Études sur les Enzymes Protéolytiques de l'Orge en Germination (du Malt). Comptes Rendus des Travaux du Laboratoire de Carlsberg. Copenhague, 1903, vol. v., pp. 133–285, especially pp. 152–165.

[11] J. Kjeldahl: Recherches sur le Pouvoir Rotatoire de Quelques Matières Protéiques Végétales, Ibid., pp. ix–xii.

[12] Weis: loc. cit., pp. 270–71.

[13] S. P. L. Sörensen und A. C. Andersen: Lässt sich der Stickstoffgehalt in Lysin und ähnlichen Verbindungen nach Kjeldahl bestimmen? Zeitschrift für Physiologische Chemie, Band xliv., 1905, S. 429–447.

and 4 must tally and the difference between the respective mean values is taken as an indication of the tryptic strength of the preparation examined. In this way values were obtained simultaneously for the first and the second phase, allowing of a correct comparison of them.

A general view of the results is given in Table V. The fractions in the column marked + indicate the dilutions one cubic centimetre of which was able to liquefy 1·5 cubic centimetres of gelatin, while the fractions in the column marked O indicate the next observed dilutions, of which consequently one cubic centimetre was unable to bring about this change of the gelatin.

so that the measuring may have become inexact, the same quantity of the mixture having represented unlike quantities of trypsin. In the experiment No. IX. (Squire, Standard III.) only one cubic centimetre was added to the flasks numbered 1 to 4 instead of the usual two cubic centimetres. The value $m_1 - m_2$ must therefore probably be doubled in order to allow of a comparison with the other experiments. This surmise is founded not only on a speculative basis but on the result of certain experiments of Weis.[14] Table V. furnishes important and interesting information which may be summarised as follows.

1. There is generally some degree of correspondence

TABLE V.

Experiment No.	Preparation.	First phase, gelatin experiments.		Second phase, glutin experiments.				
		+	O	Bottle No.	25 c.c. of the filtrate contain c.c. $\frac{n}{10}$ N.	Mean values.	Tryptic strength $m_1 - m_2$.	Notes.
I.	Trypsin Freund und Redlich.	1 : 143	1 : 200	1 2 3 4	1·8 1·7 1·4 1·5	$m_1 = 1·75$ $m_2 = 1·45$	0·3	Nearly limpid. Smell of chloroform.
II.	Trypsin Zanoni.	1 : 400	1 : 500	1 2 3 4	1·9 2·6 1·4 1·5	$m_1 = 2·25$ $m_2 = 1·5$	0·75	See supplementary notes.
III.	Trypsin Zanoni (another supply than in Experiment II.).	1 : 1429	1 : 2000	1 2 3 4	5·3 5·3 1·2 1·3	$m_1 = 5·3$ $m_2 = 1·25$	4·05	—
IV.	Trypsin Zanoni (another supply than in Experiment II. and III. Same date of manufacturing as in Experiment III.).	1 : 1429	1 : 2000	1 2 3 4	5·1 4·9 1·2 1·1	$m_1 = 5$ $m_2 = 1·15$	3·85	—
V.	Trypsin Freund und Redlich (another supply than in Experiment I.).	1 : 5000	1 : 6667	1 2 3 4	6·5 6·5 4·6 4·8	$m_1 = 6·5$ $m_2 = 4·7$	1·8	Turbid, with small precipitate. No smell of chloroform.
VI.	Trypsin Fairchild Brothers and Foster.	1 : 14,286	1 : 20,000	1 2 3 4	6·6 6·7 3·5 3·6	$m_1 = 6·65$ $m_2 = 3·55$	3·1	—
VII.	Trypsin Allen and Hanburys.	1 : 25,000	: 33,333	1 2 3 4	12·5 12·4 5·1 5	$m_1 = 12·45$ $m_2 = 5·05$	7·4	—
VIII.	Trypsin Squire and Sons. Standard III.	1 : 33,333	1 : 40,000	1 2 3 4	12·5 12·3 4·4 4·4	$m_1 = 12·4$ $m_2 = 4·4$	8	
IX.	Trypsin Squire and Sons, Standard III. (another supply than in Experiment VIII.).	1 : 66,667	1 : 100,000	1 2 3 4	10·5 10·9 2·2 2·1	$m_1 = 10·7$ $m_2 = 2·15$	8·55	Only 1 c.c. of the preparation employed. See supplementary notes.
X.	Amylopsin Fairchild Brothers and Foster.	1 : 10,000	1 : 14,286	1 2 3 4	5·3 5·5 2·1 2·2	$m_1 = 5·4$ $m_2 = 2·15$	3·25	—
XI.	Amylopsin Fairchild Brothers and Foster (another supply than in Experiment X.).	1 : 14,286	1 : 20,000	1 2 3 4	5·3 5·4 1·9 1·8	$m_1 = 5·35$ $m_2 = 1·85$	3·5	—
XII.	Amylopsin Squire and Sons.	1 : 25,000	1 : 33,333	1 2 3 4	8·9 8·7 2·8 2·9	$m_1 = 8·8$ $m_2 = 2·85$	5·95	—
XIII.	Amylopsin Squire and Sons (another supply than in Experiment XII.).	1 : 25,000	1 : 33,333	1 2 3 4	10·9 10·9 4·9 4·7	$m_1 = 10·9$ $m_2 = 4·8$	6·1	

To this table I should like to add the following supplementary notes. The numerical values of the nitrogen contained in the filtrate from the flasks numbered 1 and 2, as also from the flasks numbered 3 and 4, agree as well as could be wished for, an incontestable proof of the exactness of the method. Only in one experiment (No. II.) with Zanoni's preparation the values for 1 and 2 are somewhat too distant from each other. This preparation, however, contained a great quantity of small trypsin scales in suspension, between the efficacy of the preparations in the first and in the second phase, as a preparation that has a well-marked liquefying action on gelatin also produces a well-marked decomposition of glutin into less complex nitrogenous compounds. Similarly, preparations which have a feeble liquefying power are likely to have also a feeble decomposing power. An exact parallelism between the values of the two

[14] Weis: loc. cit., p. 197.

phases is not found and was scarcely to be expected, as the two chemical processes are widely different from each other and the analytical methods have nothing in common. It is possible that the correspondence would have been closer if I had allowed the trypsin to act on a sufficient quantity of glutin during the same space of time (24 hours) as that for which it acted on the gelatin. I have, however, followed the proposals of Westergaard, still unpublished as already mentioned, and have adhered to the technique of Weis with an action of a few hours. For two samples of Zanoni's preparation of the same date of manufacture the value m_1—m_2 stands out entirely isolated (Experiments III. and IV.). Possibly the mode of sterilisation peculiar to this preparation[15] has weakened disproportionally the efficacy in the first phase. This supposition would become more probable if those authors who consider "trypsin" to be a mixture of different proteid-converting enzymes should turn out to be right.

2. The two amylopsin preparations which I examined were stated to be free from trypsin. They behaved, however, with respect to the second phase just as if they were genuine strong trypsin preparations, as they brought about a very pronounced decomposition of the glutin into lower nitrogenous compounds. The doubt that was aroused by the surprising result of the gelatin experiments was therefore solved. Unquestionably the amylopsin preparations contained abundant quantities of trypsin and their importance for the treatment could not, if they really have any such importance, be due to their freedom from trypsin.

3. The evident correspondence generally found between the efficacy in the first and second phase makes it permissible for the investigator to content himself with measuring the activity of the preparations which he intends to use by means of the easiest and quickest method—namely, the gelatin method. To be sure, it does not furnish absolute values as the glutin method does to a certain degree, because different thymol-gelatin solutions of 10 per cent. strength possess, as stated above, a different resisting power against the same trypsin preparation. Consequently investigators employing different gelatin solutions cannot compare the tryptic values arrived at. But when once the strength of any preparation is determined it will be easy later, as long as the same gelatin solution is employed, to compare therewith new supplies of the same or of other preparations and thus to ascertain whether they are less or more powerful than the first one, and if so, how much. Certainty in this respect is indispensable for the medical man wishing to try the new treatment in practice.

4. The table shows which preparation is the strongest, thus at the same time indicating which one ought to be used for the treatment, provided that the patient tolerates that preparation as well as the other ones.

I shall now proceed to the second aspect of my task—namely, a comparative research on the local and constitutional action of the preparations on patients. I have tried injection of trypsin preparations obtained from the following firms: (1) Messrs. Raimes, Clark, and Co.; (2) Messrs. Fairchild Brothers and Foster; (3) Messrs. Allen and Hanburys; and (4) and (5) Messrs. Squire and Sons (Standard II. and III.); in other words, all the strongest ones. I have also tried (6) Amylopsin Fairchild and (7) Amylopsin Squire. As to the local action, all the trypsin preparations produced some redness and swelling round the point of injection and also generally moderate pain. The first samples of the preparation made by Messrs. Raimes, Clark, and Co., caused even in small doses very severe radiating pain, and in one patient who had it injected into the normal mammæ it caused pricking paræsthesiæ in the corresponding arm and a sensation of not being able to lift the arm. The last samples, however, were not more irritating than the preparations of other makers. In all the cases the reaction decreased rather quickly, so that after some days only an indolent moderate infiltration remained round the point of injection, which infiltration passed entirely away later. I have never observed abscesses or macroscopic signs of digestion of the tissue round the injections, which were always made into normal subcutaneous tissue of the back or of the mammæ.

The constitutional action appeared in the form of headache, nausea, general indisposition, weariness, thirst, and a rise of temperature to between 38° and 39° C. These symptoms varied much in intensity but were nearly always to be observed in some degree. The headache, the nausea, and the thirst supervened as a rule about three hours after the injection and were often accompanied by a sensation of cold. A few times I observed a rigor, always associated with a rise of temperature to near 39° C., while the sensation of cold was not necessarily accompanied by pyrexia. With respect to these inconveniences the first supplies of trypsin made by Messrs. Raimes, Clark, and Co. were conspicuous, while the later supplies did not incommode the patients more than other preparations.

Albuminuria (with a few granular casts) I have observed only once for some days in a patient who had for some time been treated with daily injections of Squire's preparation, Standard III. (strength in the first phase 1: 66,667), a preparation with regard to which the makers themselves give a caution. The affection passed quickly and entirely away after the treatment had been discontinued for some days.

Notwithstanding their considerable tryptic strength, the amylopsin preparations caused generally far less local and constitutional inconveniences than the trypsin ones. As far as my experience goes there is consequently no marked difference in the local and constitutional reaction caused by injections of the strong trypsin preparations. I have mostly used Squire's Standard II. and III., especially Standard II., which has proved to be a fairly constant preparation. I have injected per diem as a minimum such a quantity of the different preparations as would, when reduced to the volume of one cubic centimetre, liquefy my gelatin in the dilution 1: 20,000; often I have, however, given more than thrice as much.

Intentionally I have given only a short account of the reaction of the organism on the ferment injections, because this reaction must necessarily vary very much in different individuals, and the observations will therefore lose somewhat in importance when, as in my case, they are gained from no great amount of clinical material. To be sure, my material has, on the other hand, been vigorously treated; thus one patient received in the course of six months about 200 cubic centimetres of the strongest injections. On account of the small number of the patients under my care and the shortness of the total period of observation—I have only tried the method somewhat more than six months,—the well-known spontaneous improvement which may occur during malignant disease and the susceptibility of the patients to suggestion, I shall abstain from pronouncing any decided opinion as to the usefulness or otherwise of the enzymic treatment. Still I cannot help stating that my results have not given me a favourable impression of the method. The chief object of this investigation has been to make possible a rational trial of the treatment founded on knowledge of the strength of the preparations recommended for use. Besides, it is hoped that the comparative researches will be found of some interest as a contribution towards the study of methods for the estimation of tryptic activity.

In conclusion, I wish to thank Professor Holger Mygind for having placed the laboratory and clinical material of his clinic at my disposal. The director of the chemical institute of the Kommune Hospital, Prosektor Scheel, has also kindly afforded me laboratory facilities.

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[15] Zanoni: loc. cit.

THE TREATMENT OF BACTERIAL INFECTIONS BY VACCINES.

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WHILE every new, or comparatively new, departure from recognised lines of treatment, involving, as it must do, issues of such vital importance to mankind, is justly regarded by the profession at large from a somewhat conservative standpoint, it is probable that none has been surrounded at its outset by more misapprehension than the one under consideration. For this there would seem to be two main reasons, first, the alarm that naturally resulted from certain errors in the earlier application of the principles involved; and secondly, a resulting unwillingness to reconsider the subject in the light of later knowledge.

It is proposed in the present paper to outline briefly the history of protective and curative inoculations; to discuss the recent advances that have helped to put the question upon a more scientific basis; and to present a critical survey of the results of treatment in 250 cases.

The principle of acquiring protection against a specific poison by means of introducing into the system small doses of that poison, although originated by Mithridates so long ago as B.C. 70, did not until many centuries later have any application to what may be called organised poisons. The modern methods of *specific* prophylaxis and cure may be considered to have emanated from the introduction of the practice of variolation, a practice, however, associated with so much risk, both to the patient and to the community, that it had to give way to the safer method introduced by Jenner in 1797—namely, inoculation by an attenuated virus in the form of calf lymph.

The brilliant results following Jennerian vaccination led to attempts at prophylaxis on similar lines in the case of other diseases. Willems in 1850 attempted to produce protection against bovine pleuropneumonia, by inoculation with the virus but with indifferent success.

It was not until 1880 that Pasteur, working with pure cultures of the microbes of chicken cholera,[1] rouget,[2] and anthrax,[3] placed the matter on a scientific basis. In the case of rabies also he was able to elaborate an efficient system of prophylactic inoculations, although the virus of this disease still remains undetermined. In all of these cases the material used for inoculation was an attenuated virus, this attenuation being brought about by various means.

In 1887 it was shown by Salmon and Smith [4] and others that specific immunity can be induced by the inoculation of a virus killed by heat, chemicals, &c., and thus all risks of increase of virulence and resulting fatal infection were abolished, and so the method became applicable to mankind.

The important discovery of antitoxin by Behring and Kitasato [5] in 1890 led to the belief that in immune serum a panacea had been found against all infections, a belief, however, which was not justified by subsequent investigation. In recent years, therefore, a return has been made to the principle of active rather than passive immunisation. This method was first applied to man with satisfactory results by Ferran and Haffkine [6] in the case of Asiatic cholera. Later protective inoculation with killed cultures was carried out in the case of enteric fever by Pfeiffer and Kolle [7] and by Wright and Semple [8] with good results. The possibility of protective inoculation against bubonic plague has been worked on by Haffkine [9] and others with results that promise some success in the future.

CURATIVE VACCINATION.

The first attempt to extend the scope of vaccination to those cases where infection was already an established fact was made by Robert Koch. Taking into consideration the great chronicity of many localised tuberculous lesions he conceived that it might be possible from cultures of the tubercle bacillus to prepare a vaccine which would so raise the resistance of the inoculated subjects that they might not only gain an acquired immunity against infection with the tubercle bacillus but might even, where an infection was already present, be enabled to overcome that infection. In October, 1890, at the Berlin Medical Congress, he made the announcement that he had prepared a substance (the consistence of which was not published until later) which had a curative action when injected into the subcutaneous tissues of man or animals infected with tuberculosis. In a preliminary paper [10] dealing with the subject he recommended the injection of 0·01 cubic centimetre of the fluid in cases of localised tuberculosis other than pulmonary tubercle. In the latter he recommends doses of 0·001 cubic centimetre. The effects of such an injection were described as: (*a*) at the site of inoculation, *nil;* (*b*) at the seat of disease, an acute hyperæmia, swelling, and exudation, followed by absorption of the diseased tissues; (*c*) general malaise, pyrexia (from 102° to 106° F.), headache, &c.; and (*d*) tubercle bacilli in the sputum were said to become degenerate, as evidenced by thinning and beading. The publication of this paper was immediately followed by an extensive trial being given to the new substance both in Germany and in England. Doubtless many cases were subjected to treatment which in reality were quite unsuitable and hopeless from the first. However, it was not long before cases were recorded of disease which from being chronic became acute and cases of localised disease which became acutely disseminated as a sequel to the injections. So great indeed was the reaction of opinion that by the end of 1891 the greater number of those who had taken up the new treatment had already lost faith in it, and at many hospitals its use was even forbidden. This fluid, to which the name of "tuberculin" (now known as "old tuberculin") was given, was prepared thus. Bacilli were grown for from six to eight weeks in a slightly alkaline veal broth containing 1 per cent. of peptone and from 4 to 5 per cent. of glycerine. The liquid was then evaporated to a tenth of its bulk and filtered through porcelain. This filtrate constituted the old tuberculin. It will be seen, therefore, that this fluid contained only such toxic products of the tubercle bacillus as were soluble without disintegrating the micro-organisms and therefore could not give rise to an active bactericidal immunity. Koch, however, and others were now working to separate from this tuberculin the active immunising principle and also to free it from the noxious constituents.

Klebs [11] in 1891 prepared from Koch's tuberculin, by precipitation with platinic chloride, a substance which he called "tuberculocidin." This, he claimed, was without the depressant effect of tuberculin but still caused degeneration of the bacilli. Large doses, he also said, by causing a rapid disintegration of the tuberculous tissues, produced an elevation of temperature by a form of auto-inoculation with tuberculous material.

It was not until 1897 that Koch [12] announced his discovery of a further tuberculin known as the "new tuberculin," or T.R. Its preparation is as follows. Cultures grown as for old tuberculin are ground up in distilled water in agate mortars. The first quantity of the resulting fluid is decanted and constitutes tuberculin Oberer (T.O.). Fresh quantities of water are added and the trituration is repeated until no solid residue remains. This suspension of the comminuted bacilli is known as "new tuberculin" (T.R.); and 40 per cent. of glycerine is added until 1 cubic centimetre of the fluid contains 10 milligrammes of the dried powder. This tuberculin, therefore, in so far as it contains all the constituents of bacilli with the exception of the soluble exo-toxins eliminated in the T.O., should on injection give rise to the formation of active bactericidal substances. The dose of this tuberculin which was recommended varied from 0·25 to 0 5 milligramme. In spite of the distrust of tuberculin still present due to the failure in 1890 a fair trial was given to this new product. Owing, however, to the fact that the dosage was too great, and that the effects could not be determined with sufficient accuracy, this also led to disappointing results.

The opsonic index as a guide to inoculation.—In 1902 a fresh impetus was given to the exploitation of vaccines in the treatment of disease by the publication of a series of observations by Professor A. E. Wright.[13] He showed that the blood of patients who are the subjects of acne, sycosis, or furunculosis is characterised by a defective phagocytic power for the staphylococcus pyogenes. He also showed that the cure of these bacterial infections can, in almost every case, be achieved by the inoculation of appropriate quantities of sterilised staphylococcus cultures, and, further, that the cure is associated with the acquirement of an increased phagocytic power for the staphylococcus pyogenes. It was also shown [14] that human serum exerts no bactericidal action on the staphylococcus pyogenes It was, however, still a matter of uncertainty whether the blood fluids performed any active part in phagocytosis. Following on this, Wright and Douglas,[15] by using a modification of the method of measuring the phagocytic power of the blood devised by

[1] Pasteur: De l'Atténuation du Virus du Choléra des Poules, Comptes Rendus de l'Académie des Sciences, tome xci., No. 17, Oct. 26th, 1880.
[2] Pasteur et Thuillier: La Vaccination du Rouget des Porcs à l'Aide du Virus Mortel Atténué de cette Maladie, ibid., tome xcvii., p. 1163, 1883.
[3] Pasteur, Roux, et Chamberland: De l'Atténuation des Virus et le Retour à la Virulence, ibid., tome xcii., p. 429, 1881.
[4] Salmon and Smith: Experiments on the Production of Immunity by Hypodermic Injections of Sterilised Cultures, Ninth International Medical Congress, Washington, 1887.
[5] Behring and Kitasato: Deutsche Medicinische Wochenschrift, 1890.
[6] Haffkine: Inoculations de Vaccins Anti-Cholériques à l'Homme, Bulletin Médical, No. 67, p. 1113, 1892.
[7] Pfeiffer and Kolle: Deutsche Medicinische Wochenschrift, No. 46, 1896.
[8] Wright and Semple: Remarks on Vaccination against Typhoid, Brit. Med. Jour., vol. i., p 1214, 1897.
[9] Haffkine: Brit. Med. Jour., vol. ii., p. 1461, 1897.
[10] Deutsche Medicinische Wochenschrift, November, 1890.
[11] THE LANCET, Oct. 31st, 1891, p. 992.
[12] Deutsche Medicinische Wochenschrift, 1897, p. 209.
[13] THE LANCET, March 29th, 1902, p. 874.
[14] Wright and Windsor: Journal of Hygiene, vol. ii., No. 4, 1902.
[15] Wright and Douglas: Proceedings of the Royal Society, vol. lxxii., 1903, p. 357.

Leishman[16] showed that phagocytes had no power of ingesting staphylococci except when serum or plasma was present; and further, that the power exerted by the blood fluid was not a stimulation of the phagocytes, but a modification in some way of the micro-organisms, which made them a fit prey for the phagocytes. To the substance which brings about this modification they gave the name "opsonin." In a further paper,[17] published in 1904, the same authors detailed another series of experiments in which they showed that the opsonic action of the blood fluids is exerted not exclusively upon the staphylococcus pyogenes but also upon the bacillus pestis, the micrococcus Melitensis, the diplococcus pneumoniæ of Fraenkel, the bacillus coli, the bacillus dysenteriæ (Shiga), the bacillus anthracis, the bacillus typhosus, and the vibrio choleræ Asiaticæ. And, further, they showed that the increased phagocytic power which accompanies successful immunisation against the staphylococcus pyogenes is dependent upon an elaboration of opsonins in the system of the inoculated patient. In a second paper,[18] published in the same year, the increase in the opsonic power is again clearly shown to follow the injection of an appropriate vaccine in cases of infection with the tubercle bacillus or staphylococcus pyogenes. It was also shown that an increase in opsonic index was associated with clinical improvement, and conversely a fall in the opsonic index was associated with an exacerbation of the infection. From this time, therefore, the opsonic index has been used as a guide to the inoculation of vaccines, the curve of active immunity obtained being an indication both as to suitability of dose and as to the best time for reinoculating. By this means it has been shown that the dosage of Koch's tuberculins as originally recommended is far in excess of what may with safety and benefit be employed. During the last three years the main facts demonstrated by Wright and Douglas have been confirmed by numerous workers, and many cases treated on the lines indicated have been published.

The preparation of vaccines, dosage, &c.—It is proposed to indicate briefly the methods used in the preparation and standardisation of the vaccines which have been used for the cases discussed below. In the case of tubercle vaccine Koch's "new tuberculin" (T.R) has been used entirely. This, as indicated above, is prepared for the market as a solution of 10 milligrammes weight of the dried tubercle bacillus powder in 1 cubic centimetre of 40 per cent glycerine in distilled water. Dilutions of this are then made according to the dose required. The diluting fluid used is a 0·85 per cent. solution of sodium chloride. To the diluted tuberculin is finally added lysol in the proportion of 0·25 per cent. This lysol is added as a precaution against contamination. We have also used a considerable amount of tuberculin without lysol and find the results uniformly satisfactory. With regard to dosage, two years ago we made a custom of commencing with an injection of $\frac{1}{1000}$th of a milligramme and gradually increasing the dose. We came to the conclusion, however, that better immunising and clinical results were to be obtained by using smaller doses. The dosage of tuberculin has indeed altered considerably during the last two years in the hands of all workers. Our customary initial dose for an adult now is from $\frac{1}{50000}$th to $\frac{1}{10000}$th milligramme and even these minute doses can with advantage often be diminished still further. It will be sufficient to give a description of the manner of preparation of a staphylococcus vaccine as an illustration of the method employed in all the other infections dealt with. An agar slope tube is taken and inoculated from a young culture of staphylococcus. After incubation for 24 hours a few cubic centimetres of a 0 85 per cent. solution of sodium chloride are added to the tube. It is then shaken up so as to form a suspension of bacteria and is removed into another tube and submitted to the action of a centrifuge for a short time in order to deposit any masses of bacteria. The supernatant bacterial suspension is then removed by a pipette into a fresh tube and is now ready for standardisation. This is done by the method of enumeration against red blood corpuscles.[19] As soon as the films have been made for enumeration, the end of the tube containing the bacterial suspension is sealed in a flame and the whole immersed in a water-bath standing at 60° C. Here it is left for one hour. It is then removed to an incubator standing at 37° C., where it remains for 24 hours. At the end of this time tubes of agar and broth are inoculated from it in order to test its sterility. Having passed this test it is now ready for dilution to the required strength, according to the figures that have been arrived at in the meantime. This dilution is done with 0·85 per cent. NaCl and 0·25 per cent. lysol is finally added. Needless to say, these manipulations must be carried out with all the ordinary precautions used in bacteriological technique to prevent contamination of the vaccine. The dosage of these vaccines which we have found most useful is as follows:—

Staphylococcus pyogenes	100,000,000 to 500,000,000
Bacillus coli	10,000,000 to 30,000,000
Pneumococcus of Fraenkel	30,000,000 to 100,000,000
Streptococcus in chronic infections...	30,000,000 to 100 000,000
Streptococcus in acute infections ...	5,000,000 to 10,000,000

While discussing the vaccines it will be convenient to make some remarks about their specificity. Some work bearing on the subject has been done by the absorption of opsonin by various bacteria and also by inoculating a patient with more than one vaccine. Bulloch and Western[20] have published experiments from which they conclude that there is a high degree of specificity in vaccines. Muir and Martin[21] have more recently published some somewhat similar experiments from which they conclude that, while normal opsonins are non-specific, the opsonins elaborated in response to an inoculation with a specific vaccine—i.e., the opsonins present in a heated immune serum—are highly specific. It is well recognised, however, that whatever the degree of specificity may be in absorption experiments it is of great importance that a patient suffering from a bacterial infection should be immunised against that exact organism.

From the description given above of the preparation of vaccine it will be seen that only one tubercle vaccine has been used. The difficulties of isolating and growing the tubercle bacillus, in order to prepare a special vaccine for each patient, are at present in practice insurmountable It would seem reasonable to suppose, however, that there are varieties of tubercle bacilli, pathogenic to man, indistinguishable from one another by methods at present at our disposal, but differing from one another sufficiently to require a specific vaccine in order to gain the best results. This supposition is based, first, on the fact that considerable variation occurs in the clinical course of apparently similar cases during treatment with Koch's tuberculin, and secondly, on the fact that in the case of other infections the best results are often found to follow the use of special vaccines. In other infections then it has been found advisable to use a specific vaccine prepared from the actual organism isolated. There seems, however, to be considerable variability in this respect, for in the case of members of the colon and streptococcus groups this factor is apparently essential, while in the case of the staphylococcus group it is not so important.

Discussion of Cases Treated.

It is proposed in this paper to avoid the detailing of long series of cases and to endeavour to make it as far as possible a fair critical survey of cases which have been under treatment during the last two years. It is fully realised by the writer that the experience of any individual worker in this somewhat new branch of practical therapeutics must of necessity be very limited. It is felt, however, that it is by the expression of opinions, based on what experience we may have at our disposal, that the most hopeful lines for future progress may be indicated and the repetition of errors avoided. For the sake of convenience it is proposed to divide the subject under discussion into the various bacterial infections which have been dealt with—viz., infection with the tubercle bacillus, with the staphylococcus pyogenes aureus and albus, with the colon bacillus, with the pneumococcus, and with the streptococcus. These groups will again be divided up according to the various conditions which are produced owing to arrest and multiplication of the infecting organism in the various tissues.

Infections with the tubercle bacillus.—The great relative frequency of chronic localised tuberculous infections is well shown by the fact that out of 250 cases dealt with in two years 200 have come under this head. This perhaps also indicates the inadequacy of the methods that have hitherto been at our disposal for combating this type of infection. The tubercle bacillus may gain a footing

[16] Brit. Med. Jour., vol. i., 1902, p. 73
[17] Proceedings of the Royal Society, vol. lxxiii., 1904, p. 357.
[18] Ibid., vol. lxxiv., 1904, p. 147.
[19] Wright: THE LANCET, July 5th, 1902, p. 11.
[20] Proceedings of the Royal Society, vol. lxxvii., 1906, p. 531.
[21] Ibid., vol. lxxix., 1907, p. 255.

in the body in various ways. 1. By direct infection of the skin or the mucous membranes. 2. By absorption through mucous membranes without the formation of any lesion in those membranes, followed by arrest in a lymph gland, where subsequent multiplication may take place and give rise to a localised tuberculous focus. 3. Bacilli may, by various channels, gain access to the blood stream. Having entered the circulation they may be arrested in the various tissues and give rise to localised tuberculous foci at the site where arrest takes place. Under the first heading it is proposed to discuss: (1) Lupus vulgaris, affecting (*a*) the skin and (*b*) the mucous membranes; (2) tuberculous ulceration of skin either involving or not involving the subcutaneous tissues; and (3) erythema induratum.

Lupus vulgaris.—With regard to lupus of the skin, Dr. W. Bulloch [22] has shown that the opsonic index of men and women who can be considered to be normal individuals is a remarkably constant factor, but, on the contrary, in persons suffering from lupus vulgaris there is a very wide variation in the index to the tubercle bacillus. In a series of 150 cases he shows indices ranging from 0·25 to 1·4; he also points out that "with few exceptions, where the opsonic index is well below the normal limit, the most approved methods of treatment by x ray or Finsen light have little power to stamp out the disease, whereas with indices in the normal limit or above it the clinical impression is that the cases do well." He concludes by saying, "it seems not at all improbable that in addition to the tissue reaction an important rôle in the cure of lupus by Finsen light is played by the blood 'determination'—i.e., the congestion and exudation—which occurs after exposure. If the plasma is deficient in opsonin the result on the tubercle bacillus would manifestly be less than where a large quantity of opsonin was present."

During the last two years we have had the opportunity of examining the blood of another series of 80 cases of lupus, and although we have not come across so many extremely low indices as were recorded by Dr. Bulloch, our figures in the main tend to support the conclusions which he expressed. Our figures may be conveniently grouped thus:—

	Cases.		Cases.
Below 0·55	2	Between 0·96 and 1·05	9
Between 0·56 and 0·65... ...	6	,, 1·06 and 1·15	7
,, 0·66 and 0·75... ...	14	,, 1·16 and 1·25	0
,, 0·76 and 0·85... ...	22	,, 1·26 and 1·35	2
,, 0·86 and 0·95... ...	16	,, 1·36 and 1·45	2

From the above figures it will be seen that 75 per cent. of the cases have an index below 0·95, while 55 per cent. are below 0·85. On looking through the clinical history of the cases during the period that they have been under treatment (other than inoculation treatment) the general impression that is obtained corresponds with that expressed by Dr. Bulloch and quoted above. There are, however, a few very striking exceptions to the general rule. We would suggest that this may be explained by supposing that the reaction caused by the application of the Finsen light, being in the nature of a local dilatation of blood-vessels, exudation of plasma, and flushing of the seat of infection, causes an absorption of bacterial products which constitutes an auto-inoculation. This auto inoculation is, if suitable in amount, followed by the usual curve of immunity—the patient's anti-bacterial bodies being increased and at the same time enabled to reach the bacterial focus more readily. This is supported by the fact that in several instances we have been able to demonstrate a marked rise in the opsonic index following on an application of the x rays to cases of lupus with ulceration.

With regard to the treatment of lupus by inoculation, taking first lupus of the skin, our experience is that cases in which there is much ulceration (see Cases 10 and 19) show more improvement than those cases which we have come to call dry lupus (see Cases 14 and 18). The explanation of this would seem to be that those cases which are ulcerated are, if there is much discharge, continually flushing their lesions with blood fluid. If, therefore, we can insure that this fluid is rich in antibacterial bodies we shall expect to obtain a corresponding improvement. On the other hand, in the case of dry lupus the bacterial focus is localised in a tissue the circulation of which is poor. It is therefore extremely difficult, having increased the protective power of the blood, to insure that the antibacterial bodies will reach the local focus in sufficient quantities. It must be remembered also that cold hands, chilblains, and such indications of poor peripheral circulation are very marked characteristics in a large number of patients who suffer from lupus. Various methods have been tried to increase the local change of blood fluids such as dry-cupping, fomentations, and altering the coagulability of the blood. We are of opinion, however, that the reaction following the application of the Finsen light is the most efficient method of bringing about this end. It would seem, then, that the greatest difficulty to be faced in these cases of dry lupus is to procure an adequate blood determination to the part. Our experience, therefore, leads us to the opinion that in cases of dry lupus the association of inoculation treatment with Finsen light is to be recommended. We have seen several cases which seemed quite intractable after from three to five years' light treatment clear up when inoculations were added (see Cases 2, 4, 8, and 14). The tendency to relapse in these very chronic cases seems to be great; and it is probable that treatment should be continued for a considerable time after all obvious lesions have disappeared.

We have had under treatment no cases of early well-localised lupus of the skin.

Cases of ulcerated lupus, as has been mentioned above, show much more marked improvement under inoculations than the dry cases. The progress of the case may often be much hastened by fomentations or hot sand-bags. We have noticed amongst these ulcerated cases a type in which the tendency to scab over and dry up is great and where there are more or less surrounding thickening and œdema. Considerable improvement may take place in these cases on increasing the coagulability of the blood. It is common in ulcerative lupus to have a secondary infection of staphylococcus. In such cases the introduction of a corresponding vaccine does much towards diminishing the discharge.

CASE 2.—A girl, aged 14 years, came to the London Hospital in 1902 with a history of lupus vulgaris of a year's duration. Nodules were present on the right cheek around the alæ nasi and at the left angle of the jaw. She was treated at intervals from 1902 to 1905 by x rays and Finsen light. There was much improvement but a great tendency to relapse. In July, 1905, there were several patches of active lupus about the nose and upper lip. The opsonic index was 0·85. By means of inoculations it was kept from falling below 1·0 until September when she left for the country with only two small nodules remaining.

CASE 4.—A girl, aged 22 years, came to the hospital in 1903 with a history of lupus vulgaris of nine years' standing. The notes record that both cheeks, the nose, and the neck were extensively involved. The lesions had never ulcerated. When she came for inoculation in July, 1905, there were several lupus nodules about the nose and cheeks. She had been having Finsen light applications for two years and had shown great improvement but always relapsed within a fortnight if treatment was discontinued. Her opsonic index was 0·75. After three months' inoculation treatment, combined with treatment by Finsen light, all the lesions were healed. There was also a marked improvement in her general health and appetite. In September, 1905, the patient left London and discontinued treatment. In January, 1906, her opsonic index was 0·9. There was no recurrence. In March, 1906, following an attack of influenza several nodules appeared again. Her opsonic index had fallen to 0·63.

CASE 8.—A man, aged 23 years, came to the hospital in 1902 with a history of lupus vulgaris which had persisted for 18 years. There was a strong family history of pulmonary tuberculosis on the father's side. His lesion consisted of one patch on the right cheek of the dry variety of lupus. Treatment by Finsen light was carried out from 1902 to 1905 with benefit, but relapse always occurred as soon as it was discontinued. In August, 1905, his opsonic index was 0·73. Inoculations were commenced and in September of the same year all his nodules were healed. He left hospital on Sept. 23rd. On Jan. 3rd, 1906, he returned with one small recurrence in the scar. His opsonic index was 0·8. This nodule cleared up on raising his opsonic index again.

CASE 10.—A boy, aged 18 years, was admitted to the hospital in August, 1901, with a history of lupus for three years. There was no history of tuberculosis in the family. The condition on admission taken from the hospital records was: "The whole of the right side of the nose affected, also in mucous membrane of right nostril, and a patch on right cheek." In January, 1902, the notes record that the soft palate and uvula were also involved. He had been treated by the x rays, Finsen light, lactic acid, trichloracetic acid, and the Pacquelin cautery to the active parts without any improvement. In August, 1905, there was a great deal of thickening and œdema of both lips. There were ulcerated patches over both cheeks, around the alæ nasi, and over the lips. The mucous membrane of the nostrils, gums, and soft palate were involved. The patient's opsonic index to the tubercle bacillus was 0·8. Inoculations were commenced in August, 1905. In November the face was considerably improved, the ulcerations gradually healing. In April, 1906, the coagulability of the blood was estimated and was found to be three minutes and 30 seconds. Calcium lactate was therefore given with the result that the œdema of the lips was very considerably reduced. From this time improvement has been steady and continuous, until at present, with the exception of one or two nodules on the cheek, the lesions have entirely healed.

CASE 14.—A man, aged 23 years, attended the hospital first in 1903 with lupus vulgaris over both cheeks. It commenced in infancy and had gradually spread since. He was treated for two years (1903–05) by Finsen light and improved greatly. Fresh nodules, however, continued to appear in the scars. In August, 1905, his opsonic index was 0·8. He was treated with inoculations for two months, at the end of which all his nodules were healed and he ceased to attend. He remained well until January, 1906, when he returned with three fresh nodules in the scars. These cleared up under inoculations.

[22] Transactions of the Pathological Society of London, vol. lvi., part 3, 1905.

CASE 18.—A girl, aged 15 years, came to the hospital in 1903 with very extensive lupus vulgaris of eight years' duration. She was treated from 1903 to 1905 with plasters and ointments without any benefit. In 1905 the parts involved were the right forearm, the left arm, forearm, and hand, the right side of the face and neck, the skin surrounding the left eye, and a small patch in front of the left ear. The whole of the lesions were dry and deep red in colour and somewhat resembled lupus erythematosus. The opsonic index was 0·8. Inoculation treatment was carried out for 12 months without any apparent benefit. During this time dry cupping and alterations in the coagulation time of the blood were tried without any benefit.

CASE 19.—A youth, aged 20 years, came to the hospital in September, 1905, suffering from extensive ulcerative lupus. It had commenced eight years previously and had been spreading continuously in spite of treatment by x rays and high-frequency current. In September, 1905, there were extensive ulcerated areas over the left cheek, the left side of the lower jaw, around the mouth and nose, on the left side of the neck, and on the right cheek, below and external to the right outer canthus. There were also ulcerated areas over the extensor aspects of both arms. His opsonic index was 0·8. Inoculation treatment has been carried out since September, 1905. During this time healing has been slowly and steadily taking place. At present the areas on his arms have completely healed. The ulceration on the neck and left cheek is healed. There is still a small area of ulceration about the mouth and right cheek and right side of the face. In this case the ulcers were much improved in cleanliness by the addition of a staphylococcus vaccine.

(To be concluded.)

A SECOND CASE OF ANEURYSM OF THE RIGHT SUBCLAVIAN ARTERY TREATED BY LIGATURE OF THE AXILLARY AND CAROTID ARTERIES WITH RESULTING CURE OF THE ANEURYSM.

BY H. GILBERT BARLING, M.B. LOND., F.R.C.S. ENG.,
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IN THE LANCET of Sept. 16th, 1905, I published notes of a case of aneurysmal dilatation of the right subclavian artery treated by distal ligature of the first part of the axillary and the common carotid arteries. My intention to ligature the innominate artery was frustrated by marked dilatation of its walls, but the final result of distal ligature was so good as to leave no cause for regret that the original purpose was not effected. Three years have now elapsed since this operation and the patient remains in as satisfactory a condition as when the note of his case was published.

The case I now wish to record resembles very minutely the one first alluded to, the treatment adopted was the same, and again the result is satisfactory. A man, aged 44 years, was brought to me in June, 1906, by Mr. F. H. Foulds of Droitwich whom the patient had consulted on account of pain in the right upper extremity which had been ascribed to neuritis. Mr. Foulds at once recognised the presence of a subclavian aneurysm and at our consultation it was resolved to try the effect of rest in bed, a limited dry diet, and the administration of increasing doses of iodide of potassium. This treatment was carried out rigidly for six weeks and then in a modified degree for another month, but without any improvement except relief to pain when the patient was at rest. Pain returned when any degree of activity was resumed and the aneurysm having increased somewhat in size operative measures were determined on. There were two or three points in the history which made us regard arterial ligature with a little more anxiety than usual, seeing that it might be necessary to obstruct the right common carotid artery either by ligaturing that vessel itself or the innominate, but as the aneurysm had not receded—indeed, had rather increased—under most favourable conditions it seemed little good pursuing palliative remedies only. The causes for anxiety to which I have alluded were attacks of giddiness from which the patient had suffered during the few weeks immediately before I saw him and the occurrence of seizures some years previously which had then been regarded as of an epileptic nature.

At the time of the operation the aneurysm was as large as a Tangerine orange; it extended from the upper margin of the clavicle in a direction upwards and inwards, disappearing under the outer edge of the sterno-mastoid in an inward, and underneath the trapezius in an upward direction; the swelling measured vertically in its greatest diameter nearly three inches. A soft systolic bruit could be heard over it but there was no murmur heard at the root of the neck nor over the cardiac area; the second sound of the heart was accentuated and of a slapping character. At an earlier examination it was thought that there was a slight aortic bruit.

Recalling the case already published I felt it was extremely likely that here, again, the whole of the subclavian and innominate arteries would be found dilated; my intention was in the first instance to expose the second part of the subclavian artery and if it were found in fairly good condition to apply a ligature there, if not to follow up to the first part of the subclavian in case the distribution of the branches from that part permitted its being tied with reasonable hope of success, this with a view of avoiding closure of the right common carotid, having regard to the giddiness and doubtful epileptic seizures to which I have referred. Chloride of calcium was given freely before operation in the hope of influencing the coagulability of the blood.

Operation was performed on Sept. 8th. A transverse incision was made along the clavicle and most of the outer part of the sterno-mastoid was divided, the scalenus anticus was exposed, the phrenic nerve was carefully hooked inwards, and the greater portion of the scalenus divided. The artery here was found much dilated and quite unsuitable for ligature; by further division of tissues the first part was also exposed and it and its branches were also found dilated, which determined me then to expose the innominate artery. A nearly vertical incision almost in the middle line and running downwards to meet the inner end of the transverse was then made, the remainder of the sterno-mastoid, the sterno-hyoid and sterno-thyroid were then divided and the lower part of the carotid artery was found; it was somewhat dilated at its lower end and as the innominate could not be examined without removal of the inner end of the clavicle this was now done. This artery was much dilated; it appeared to be about three-quarters of an inch in diameter and at the spot which would have been convenient for ligature, some three-quarters of an inch below its bifurcation, there was a hard calcareous patch of considerable size. The resemblance to the condition of the arteries in the case already published was remarkable and determined me to adopt double distal ligature. The carotid was therefore tied about one and a quarter inches above its origin, and the first part of the axillary was secured immediately below the clavicle. One point worth noting is that wherever the arteries were exposed there was a good deal of matting to the surrounding tissues, as though by inflammatory processes extending from the walls of the arteries to the parts in which they lay; this was quite noticeable even in the first part of the axillary, which also contained some calcareous patches.

The wound was drained for the first 48 hours and a good recovery followed, union being by first intention; happily, there was not the faintest sign of disturbance of the cerebral circulation at any time after the operation. At the end of a week pulsation could scarcely be detected in the aneurysm, but was still marked over the first part of the subclavian and in the upper end of the innominate; at the end of five weeks, when the patient was allowed up, the aneurysm was quite solid, and slowly since that time pulsation in the first part of the subclavian and in the innominate has become less marked and, allowing for the division of soft tissues and the clavicle, which has, of course, left the arteries unusually exposed, the pulsation of these vessels appears now to be about what one would expect in normal arteries.

For 12 months the right arm was kept to the side in the first instance by bandaging and later by a splint and sling, but the patient has been able to use the hand for writing and other details of that kind, and for the last nine months he has resumed his official duties, which fortunately do not involve any physical strain.

Birmingham.

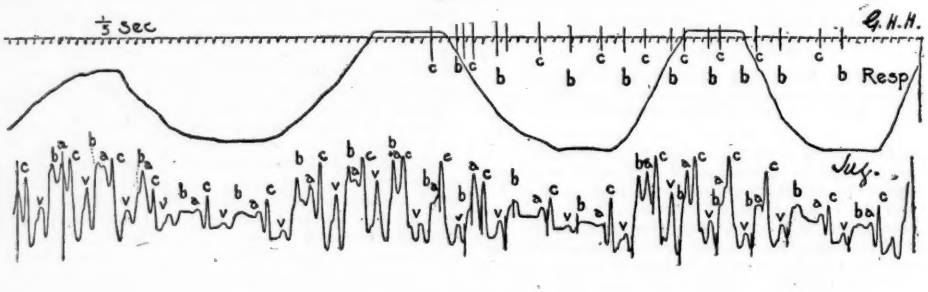
BORIC ACID IN CREAM.—In his quarterly report to the Hove town council Mr. S. A. Woodhead gives the result of his analysis of three samples of milk and three samples of cream which were submitted to him by private individuals. The milk was found to be genuine, but the samples of cream contained 100, 180, and 190 grains of boric acid per gallon respectively. Two infants had been taking the milk, plus a little cream, and sickness invariably followed. The use of the adulterated cream was stopped and other was supplied and no further sickness followed, and Mr. Woodhead is convinced that the boric acid was the cause of the vomiting, especially when viewed in conjunction with the fact that the samples were not from the same house but were supplied by the same vendor.

THE SIGNIFICANCE OF A HITHERTO UNDESCRIBED WAVE IN THE JUGULAR PULSE.

BY ALEXANDER G. GIBSON, M.A., M.B. OXON., M.R.C.P. LOND.

IN the course of a study of jugular pulses in normal persons I have noticed that in those whose pulse-rate is slower than the average (60 per minute or under) a wave between the *v* wave and the *a* wave is often to be seen. It is most typically seen in normal young adults who are in the habit of taking vigorous exercise or who are convalescent from acute diseases. Such waves are seen in Figs. 1 and 2 and marked *b*. The form of the wave varies; sometimes it is an almost vertical uprising with a straight top, at other times it is a well-defined short wave. The form of wave seen in its largest examples is one in which on the upstroke there is a small indentation just before the summit, and is similar in many respects to another nick which has been described on the *v* wave as being due to the closure of the semilunar valves. When a series of these waves are shown in a tracing they are found to bear a constant relation to the preceding systole as measured from the beginning of the auricular or carotid wave. This is well seen in Fig. 1 where owing to a marked respiratory variation in the heart-rate the interval between the *b* and succeeding *a* wave is seen to increase with the slowing of the pulse. The following table shows the time interval elapsing between the *c* and this wave in some cases of which good records have been obtained:—

FIG. 1.



No. of case.	Condition.	*c b* interval.
1	Normal.	0·56 – 0·66 second.
2	,,	0·64 ,,
3	Convalescent from influenza.	0·5 – 0·6 ,,
4	Convalescent from pneumonia.	0·6 – 0·64 ,,
5	Convalescent from rheumatic fever.	0·52 – 0·6 ,,

The variation in the *c b* interval is probably partly mechanical from the differences in the fulness of the jugular vein. The *c b* interval sometimes bears a relation to the respiration but the differences are so slight that they would easily fall within the limits of error, and the variation is not always in the same direction in two individuals.

In the jugular pulse, thanks to the researches of Mackenzie[1] and others, we have in the small nick on the upstroke of the *v* wave a point where systole ends, this being the position of the closure of the similunar valves. The period, therefore, which intervenes between this and the subsequent auricular wave both the cavities of the heart are in diastole. During this period the *b* wave occurs. In pulses of average rate, between 70 and 80, the interval is so short that any wave that may be present is not distinctly visible, but in hearts of slower rate, as can be seen from the tracings, it is in some instances extremely well marked. The events which occur in the heart during this period are: first, the replacement of the heart after its protrusion during systole, probably causing the main part of the *v* wave; and secondly, the emptying of the veins and auricle into the ventricle which becomes gradually filled. Without examining the evidence in favour of the view[2] it is accepted, I believe, that when the ventricle becomes moderately full the mitral and tricuspid valves float up by reason of eddies behind them in the ventricle, and the closure of the aperture by this means prevents regurgitation. An increase of pressure in the ventricles now causes these free edges to be closely pressed together in apposition. Apart from the filling of the ventricles, auricles, and veins which goes on during diastole and may cause an overflow wave in the jugular vein, this closure, at least in slowly-beating hearts with ventricles of normal size, must occur some time before the auricle begins to contract, for, if not, one must conceive either a slow filling of the ventricle for a slowly beating heart or an enlarged ventricle. It is conceivable then that this extra wave may be due to the closure of the auriculo-ventricular valves by the natural filling of the ventricle with blood and the slight increase in pressure which the upward movement of the valves would cause in the venous system. Here it may be pointed out that the form of the wave suggests a mechanism of this kind, for no mere overflow wave such as could be caused by a gradual filling up of the ventricles, auricles, and veins alone could cause the nick which has been noticed as characteristic of many examples of the wave.

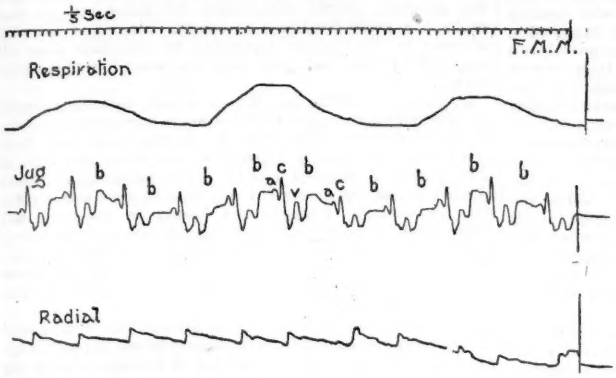
In two of the cases recorded in which the heart sounds were carefully studied it was possible to detect a third sound between the second sound and the succeeding first sound. It was heard only at the apex in one, while in the other case it was heard at the apex and over the jugular pulsation in the neck. The sound is by no means easy to hear; extraneous sounds must be eliminated as far as possible and special attention paid to the interval in which the sound is expected. Nor is it possible to hear the sound at every systole; from my own observation it is best heard in the short interval between expiration and inspiration. The quality of the sound is low-pitched and clear, with no suspicion of harshness or anything suggesting a murmur. Except for the pitch it recalls in type the second sound as heard in fat persons. It is slightly increased in intensity and raised in pitch by pressure on the abdomen. It was desirable to see if any relation existed between the time of the sound and that of the wave; accordingly, failing apparatus for recording the sounds of the heart graphically, an attempt was made to record the time when the sound was heard, or rather expected, on the same tracing as the jugular pulsation was recorded. This method has not been sufficiently successful to record the results except in one instance which will be referred to.

[1] Mackenzie: The Pulse. Edinburgh, 1902, p. 207. See also Wenckebach, Beiträge zur Kenntniss der Menschlichen Herztätigkeit. Archiv für Anatomie und Physiologie. 1906, p. 297.

[2] See Leonard Hill: Schäfer's Text-book of Physiology, vol. ii., p. 9.

Professor Einthoven,[3] who has recently been engaged in the recording of heart sounds by means of his string galvanometer (Saiten-galvanometer) has been good enough at my request to look over his tracings of normal subjects and his letter convinces me that the sound and wave are due to the same cause. He writes to say that in one case investigated an extra sound was noted at the apex after the second sound. The subject had a pulse of 67. In two tracings of the sounds in this case which Professor Einthoven sends me the interval between the beginning of the first sound and that of the extra sound varies between 0·44 sec.–0·48 sec.[4] As in the observations by means of the stethoscope, the sound is occasionally not recorded. If it is considered that Professor Einthoven's instrument probably records some of the auricular sound previous to the first sound and that from the table given previously the time interval from carotid wave to *b* wave varies somewhat in different individuals, the agreement between Professor Einthoven's and my own observations is striking. Moreover, I have been in the habit of taking as the beginning of the *b* wave the place where the nick is found on the upstroke, and this again would lessen the *c b* interval to 0·5 of a second.

FIG. 2.



It is highly probable, therefore, that the sound and the wave in the regular pulse are due to the same cause. There are three possibilities for the explanation of a sound in the diastolic period; first, a muscular sound having to do with something other than auricle or ventricle; secondly, a rush of blood through an orifice; and thirdly, the tension of a membrane. Except the venous musculature no muscular contraction in this period is conceivable, and this is of such small proportions that it would not be likely to produce an audible sound; moreover, the *b* wave bears no relation to the succeeding auricular systole which we should expect to find were this the cause. The second possibility is again unlikely, for everything that is known of the filling of the heart, at least in normal persons, points to a very gradual process. This is not so, however, with the third hypothesis. By observation on the excised heart it can be seen that as the ventricular cavity fills the auriculo-ventricular valves float up and close automatically when the ventricle is full, and it is easy to imagine that the inrush of blood would be followed by a reaction on the ventricular walls in proportion to the momentum of the inrush, so that with a rapid and full stream the tightening of the valves would be quick and strong while with a slow stream the process would be more gradual yet in no wise less complete. The fact that this explanation necessitates the closure of the valves *before* the auricular beat is no objection; the amount of force necessary to push open the valves is extremely small and the heart would be the more rather than the less efficient pump because of the double closure of the valves. The sequence of events in the diastolic period would then be as follows. After the replacement of the heart which follows systole and causes the *v* wave in the jugular pulse, the blood flows into the ventricle, the valves float up, gradually when the venous pressure is low, quickly when it is high, and the orifice closes; the auricle is now filled by blood from the veins; it contracts and forces the greater part of its contents into the moderately distended ventricle which then becomes fully so, the valves close again from the increase of pressure set up in the ventricle by the auricular contraction; finally, the ventricular contraction keeps the valves closed till the end of systole.

FIG. 3A.

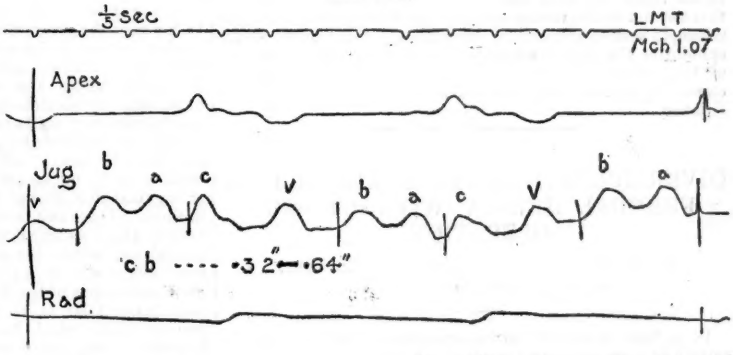
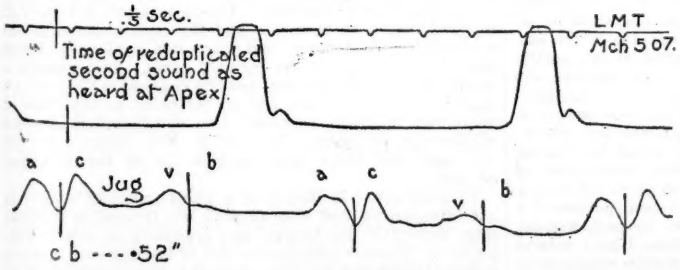


FIG. 3B.



Boyd,[5] inquiring into the cause of the reduplication of the second sound, heard at the apex only, in cases of mitral stenosis, allocates the formation of the sound to the *mitral* valve but considers it to be a presystolic murmur produced by flow of blood through a constricted orifice. In testing the capacity of the pulmonary valves to produce a sound on closure he found a head of six inches of water was necessary for the sound of the tension of the valves to be audible by the phonendoscope. Sansom,[6] discussing the causation of the same phenomenon, considers it due to the sudden release, by diastole, of the blood in the auricles and veins, and the forcible inflow into the ventricle followed by sudden concurrence and tension of the valve cusps. It is not possible as yet to decide whether the right and left side of the heart

[3] Einthoven: Die Registrirung der Menschlichen Herztöne mittels des Saiten-galvanometers, Archiv für die gesammte Physiologie, Band cxvii., 1907, p. 461.

[4] The tracings taken on this subject have been published by Professor Einthoven in the Archiv für Gessamte Physiologie, 1907, Band cxx., p. 31.

[5] Boyd: Transactions of the Edinburgh Medical and Clinical Society, 1897 vol. xv[1]. N.S., p. 46.

[6] Sansom: Quoted by Ringer and Thear, THE LANCET, Sept. 29th, 1894, p. 729.

participate equally in the causation of both the wave and the sound; the presence of the wave in the jugular pulse would suggest its causation in the tricuspid valve, while the localisation of the sound at the apex beat would suggest as its site the mitral. This, however, is not of great importance to the main proposition.

It is to be supposed that if the explanation of these observations is correct, the wave would alter in its time relations with a variation in the size of the cavities of the heart. This is found to be borne out by observation. It is admitted that in pneumonia there is some affection of the heart muscle even in previously healthy people, probably in the direction of an impairment of contractibility and tonicity. Fig. 3 A is the record of the apex beat, jugular pulse, and radial the first day after the subsidence of fever in an otherwise healthy young adult after a sharp (four days) attack of pneumonia. The *c* wave is seen to be separated from the *b* wave by an interval of 0·6 sec. In Fig. 3 B, taken four days later, is seen the time of the third (extra) sound in relation to the jugular pulse. It is seen that this sound, as marked, begins at the top of a wave which immediately succeeds *V*, probably the *b* wave; but if so, this is now only separated from the preceding *c* wave by 0·52 sec. A second case of mitral and tricuspid failure with œdema, a slow pulse the result of digitalis, and apex beat two inches outside the nipple line showed in one tracing a *c b* interval of 1·06 sec., in a tracing taken four weeks later, when the apex beat was in the nipple line, gave a *c b* interval of 0·74 sec. At the time of the latter tracing it was not possible to hear any extra sound either at the apex or in the neck.

Since writing the above Dr. James Mackenzie has directed my attention to a paper by Hirschfelder in the *Johns Hopkins Bulletin*, June–July, 1907, in which tracings from a patient with myocardial disease are given showing a wave similar in form and relation to that described in this paper. Hirschfelder found the same wave in the normal individual, and in this but not in the former case he was able to hear over the tricuspid area at the end of expiration a third heart sound simulating the protodiastolic gallop rhythm. The floating-up of the mitral and tricuspid valves is given as a possible cause, but no conclusions are formed.

Oxford.

DIVERTICULUM OF THE BLADDER IN A FEMORAL HERNIA, WITHOUT SAC; OPERATION.

BY J. HUTCHINSON, JUN., F.R.C.S. ENG.,
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IN a long series of hernia operations every surgeon is certain to meet with some instances of hernia of the bladder. As a rule, the protrusion is small and found at the inner side of the hernial sac; it is especially common in elderly subjects. The discovery during a hernia operation of an anomalous projection or lump at the inner side of the sac, although it may be concealed by a covering of fat, usually at once puts the surgeon on his guard and prevents him excising or cutting into the vesical wall. That this, however, is not only a fairly common but dangerous complication is shown by the collection of cases by Curtis and Gibson. These surgeons tabulate 103 cases of wound of the bladder during herniotomy with a mortality directly due to this of no less than 12 per cent. It is needless to point out that if over 100 instances of this accident had been published a much larger number have been allowed to pass without record. Out of some 800 hernia operations I have several times met with slight protrusions of the bladder which, once recognised, were returned within the abdomen without difficulty, and the only case in which I incised the intruding portion of bladder was the following, which is worthy of record on account of a very rare feature.

A woman, aged 63 years, was admitted to the London Hospital on Jan. 1st, 1900. When a girl a small hernia in the right groin was said to have developed from skipping. She wore a truss for 30 years when the hernia seemed to be cured and she had given up its use. Shortly before admission she had experienced pain in the right groin on walking and for a few days there had been trouble in micturition, the urine being thick and dark. 24 hours before admission she was seized with severe abdominal pain and vomiting and on admission she was so collapsed as to be thought moribund. A femoral hernia of the size of a large chestnut was found in the right groin; it had no impulse on coughing, was fairly soft, and the tissues over it were doughy. At the operation on the day of admission the lump was found to consist wholly of a pouch or diverticulum from the bladder with thickened and congested walls; there was no trace of any peritoneal covering—i.e., there was no true hernial sac. The incision made into the diverticulum was carefully sewn up with a double row of fine silk sutures, the pouch was then returned, and the femoral ring narrowed by deep tendon sutures. As some urine had soiled the wound a drainage-tube was inserted. Slight suppuration did ensue and for four weeks the urine continued to contain blood and pus with albumin in diminishing quantity; by the fifth week all signs of cystitis had gone and the wound was soundly healed.

Looking back at the case it may be said that the patient's urinary symptoms ought to have made one suspect that the hernia was one of the bladder. At the same time these symptoms were hardly more than are often met with in elderly women without hernia. The remarkable feature alluded to was the absence of any kind of sac; this I made out for certain. Probably the hernia in early life had stretched the femoral ring and the relaxation of the vesical wall of old age had led to the protrusion of the diverticulum. A free excision of the latter would certainly not have been wise as the patient was not in a state to stand any protracted operation.

When a hernial protusion of the bladder has been opened the operator has generally been content to sew the wound up, carefully providing for the chance of leakage through the wound. The question naturally arises, Should the bladder be kept contracted by the retention of a catheter in the urethra? Clinical evidence is on the whole strongly against adopting this course as it will almost certainly lead to cystitis. In my case the protruding portion of bladder wall had been nipped, but not really strangulated by the femoral ring, and from the symptoms it seems probable that cystitis had already developed before the operation. Those with any large experience of herniotomy will I think admit (1) that small hernial sacs may easily retire within the abdomen from time to time (I have recorded positive evidence that a large hernial sac may do this); and (2) that small protrusions of the bladder are by no means uncommon through either femoral or inguinal ring, though they may not be constantly present in them. These two facts taken together seem perfectly to explain what has long been an enigma, the formation of a pre-vesical sac within the abdomen and its occurrence in those who have or who have previously had an external hernia. In the Transactions of the Royal Medical and Chirurgical Society (vol. lxxxii.) Mr. G. H. Makins and I recorded two cases of pre- or para-vesical hernia, both of them strangulated. In both recovery fortunately followed abdominal section. In my case the pouch was a small one lying behind the pubes at the side of the bladder and contained a loop of tightly strangulated small intestine. The patient gave a history of inguinal hernia on that side and the explanation suggested was that the bladder wall had drawn in a small pouch which had previously been in the inguinal canal. Subsequently, a small loop of intestine had become engaged in the sac. Of course, this explanation has no reference to the cases of undoubted reduction *en masse* of sac and contained intestine within the abdomen. In neither Mr. Makins's nor in my case was there any question as to the reduction *en masse*.

To summarise: 1. Hernia of a small portion of bladder is not infrequently met with through the femoral or inguinal ring, especially the former, and especially in elderly subjects. 2. There is considerable risk of incising such a pouch of the bladder and in some cases it is almost impossible to avoid this. 3. In a case where the surgeon suspects the condition during operation the diagnosis may be confirmed by injecting water into the bladder through a catheter. 4. If the vesical pouch has been incised it should be carefully sutured and drainage provided for. A catheter should not be retained but the patient should be given urotropine for several days. 5. The formation of a pre-vesical hernia is probably accounted for by the previous occurrence of an external hernia of the bladder in the manner suggested above.

Park-crescent, W.

A FOREIGN BODY IN THE LEFT BRONCHUS OF A CHILD EXPELLED THROUGH A TRACHEOTOMY WOUND ON THE FIFTEENTH DAY AFTER INHALATION.

BY H. S. CLOGG, M.S. LOND., F.R.C.S. ENG.,
ASSISTANT SURGEON TO CHARING CROSS HOSPITAL; SENIOR SURGEON TO THE EVELINA HOSPITAL FOR SICK CHILDREN.

A LITTLE boy, aged one year and nine months, was seen by his parents on August 3rd to have a mouthful of chicken corn. He was told to spit this out, which he did, but not without a severe fit of coughing. From that date to the 7th he had repeated attacks of coughing without any very evident distress in breathing. In the intervals between these attacks he seemed perfectly well and was running about as usual. On the 7th he was taken home, a railway journey of 25 miles. On the morning of the 8th the child had a severe convulsive coughing fit with great respiratory distress and the breathing ceased for a few moments. Artificial respiration was performed. Natural breathing was restored and the coughing and respiratory distress gradually passed off. On the evening of the same day the child had a similar attack. Again on the evening of the 9th he had an attack of marked dyspnœa; the temperature was normal and the respirations were 76; there was deficient entry of air into the left lung. By observing the effect of position it was noticed that the child breathed the easiest when lying flat on his back. In this position it was thought that air entered the left upper lobe. The dyspnœa lasted for about two hours; the child slept all night; during sleep the respirations were 44. On the 10th there were two attacks of dyspnœa and coughing, each lasting about two hours; these were not so severe as the former attacks had been. There was one dyspnœal attack on the following day and the temperature rose to 101·6° F. but it fell to normal again in three hours. This was the only time the temperature was raised. On the 12th there were no paroxysms of dyspnœa, but the respirations were from 50 to 60, while the temperature was normal and the pulse ranged from 120 to 130. The child seemed bright and playful. On the 13th he was brought up to London, a distance of 200 miles. There had not been any attack of dyspnœa since the 11th; the respirations varied between 40 and 50 and the pulse from 120 to 130. The child had been kept flat on his back since this was found to be the position easiest for breathing. Since the evening of the 9th the condition of the left lung had practically not changed, the percussion note was quite flat and the breath sounds were inaudible over the lower and very faint over the upper lobe; marked recession of the intercostal spaces was present. At times moist sounds were heard over the lung, and the child during the fits of coughing seemed to expectorate mucus into the mouth which was promptly swallowed. It seemed pretty clear that a piece of corn had found its way into the left bronchus and was obstructing it, and probably more the lower than the upper division of the bronchus.

Under chloroform anæsthesia the trachea was opened. This was incised as low as possible in the neck and a long opening was made so as to get as near to the bifurcation as possible by this route. An enlarged thymus considerably added to the difficulties of exposure; this extended into the root of the neck and obscured very much the tracheal opening. The trachea was held widely open with retractors and the thymus held down and instruments of various sizes and shapes were passed down the wind-pipe. Probes, curved wire, and various forceps were all tried without avail. The right bronchus could be entered but not the left. In spite of a thorough trial, lasting nearly an hour, the foreign body could not be extracted. The child was allowed to come nearly round from the anæsthetic, coughing was excited, and various positions were tried, but all were useless. A tracheotomy tube was inserted. On account of the large hole in the trachea and the enlarged thymus gland a silver tube could not be used, since it was not long enough and was jerked out at once by the elevation of the thymus during respiration; a long rubber tube was therefore employed. On the same evening the respirations rose to 72 and the temperature to 102°, and the child became very ill. During the night a severe dyspnœal attack occurred which was relieved by the inhalation of oxygen. On the following day it was noticed that there was deficient entry of air into the lower lobe of the right lung and an area of bronchial breathing was present at the apex of this lobe; numerous moist sounds were heard over the right chest and there was recession of the lower intercostal spaces. During the following two days the condition remained much about the same. The physical signs in the chest were unaltered; at no time could it be certain that any more air was entering the left lung. The temperature ranged from 99° to 101·6°, the respirations from 60 to 72, and more urgent dyspnœa occurred at times. The tube was left in and quantities of mucus were expelled through it. The physical signs suggested that the left bronchus was more or less completely occluded and the right one also to some extent; the foreign body, therefore, was probably lying at the bifurcation of the trachea. On the third day after the tracheotomy the tube was removed and a further attempt (without anæsthesia) was made to remove the foreign body. This was unsuccessful. A silver tube was now inserted. The process was repeated on the following day and again on the next day, when after a violent fit of coughing and dyspnœa which lasted for some minutes, and during which the child seemed nearly dead, the body was seen in the depths of the wound and was removed. During this paroxysm of coughing and dyspnœa it seemed pretty certain that the body must have changed its position and must have lain in the trachea; various forceps were passed down but it could not be grasped, nor even felt, not even in this short length of trachea. The body was a piece of maize swollen to two or three times its natural size; on drying it, it soon shrank down to its normal size and was absolutely unaltered; it was not even split. The tracheotomy tube was at once left out and the wound was allowed to close, which it speedily did, becoming merely superficial in six days. On examining the chest a few hours after the body had been expelled a marked change was noted to have taken place. Over the whole of the left lung and the lower part of the right lung there were intense bronchial breathing and numerous moist sounds. Day by day the breathing became less bronchial and more and more normal and the râles lessened; the last portion to clear was that near the root of the lung. During the first few days considerable quantities of mucus were expelled from the tracheotomy wound. This lessened and ceased in six days. The lungs did not return to their normal condition, as judged by physical signs, until eight days after the expulsion of the body. During the whole of this time the temperature was normal. The respirations for the first two days remained frequent at from 50 to 60; this frequency gradually diminished as the signs in the chest disappeared.

Harley-street, W.

ON THE OCCASIONAL NECESSITY OF DRAINAGE OF THE UTERUS IN PUERPERAL INFECTION.

BY A. A. WARDEN, M.D. GLASG. & PARIS,
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WHEN a mere practitioner ventures into print upon a subject connected with the work of specialists he must indeed both excuse and justify his action. The details of the following case, interesting and instructive to me, may contain nothing new or of infrequent occurrence in the larger experience of accoucheurs but may, on the other hand, corroborate conclusions that are already generally admitted.

Even specialists and consultants will not, I believe, contest one advantage enjoyed over them by the general practitioner. His constant contact with the patient enables him to detect changes, to see cause and effect in treatment, and to realise the meaning of certain phenomena in a measure that cannot be appreciated by the brief examination, however thorough, of the physician called in consultation. It has often seemed to me that the consultant is at a great disadvantage, both as regards his ability to help the patient and as regards his interest in the subsequent course of the ailment, just because his examination of the patient must be so brief and so isolated. He cannot see for himself whether his treatment is properly followed or results in advantage to the patient: he sometimes does not even know if his diagnosis of a difficult case has been correct.

The case I would now refer to may be summed up as one

of puerperal infection due to retention of lochia, unrelieved by curettage and intra-uterine douching, cured by uterine drainage. I may add that I had during the course of the illness the advantage of consultation with the late Professor Budin who took a very grave view and did not hesitate to describe it as *la grande infection*, that is to say, generalised puerperal infection. The accouchement—of a second child—took place simply and normally on June 18th at what may be termed the customary hour of 3 A.M. Following my usual prac'ice I had entirely avoided vaginal examination from the onset of labour, the progress of which I had followed by abdominal palpation. For three days the patient's condition was excellent. (Looking back it seems probable, however, that at this stage an abnormal diminution of the lochia might have been noticed or at least suspected.) On the fourth day there was a rise of temperature to 102° F. with pain low down in the abdomen on the right side. As the bowels had not moved since the confinement an enema was given with good result and for 36 hours the temperature remained normal. On the evening of the sixth day there was a rise to 101° and on the next day, during my absence, my friend, Dr. C. K. Au tin, saw the patient, the temperature being 103·6° and the pulse 110. He gave an intra-uterine douche by which a large amount—about half a litre—of brown turbid fluid was washed out. This in no way relieved the patient, at least in so far as her comfort was concerned, as it was immediately followed by a violent rigor, the temperature remaining high and the pulse rapid. On the next morning I repeated the intra-uterine douche, similarly washing out much turbid fluid. Within half an hour the temperature rose from 100·6° to 104·6°, the pulse to 128, and an alarming and prolonged rigor occurred. Professor Budin saw the patient at 2 P.M., soon after a third intra-uterine douche had been given, and during his visit the third rigor took place. Professor Budin's prognosis was of the gloomiest, and he expressed the opinion that unless the uterus were at once curetted death would probably take place. At 6 P.M. the patient was anæsthetised and the uterus thoroughly cleaned out with the *écouvillon* or quill-mop—the instrument preferred to the steel curette by both Budin and Doléris for this purpose.[1] The curette brought no placental débris away and there was no evidence of sloughing or deep infection of the uterine mucous membrane. The cavity of the uterus was packed with iodoform gauze. That night the situation seemed saved, the condition of the patient was excellent, the temperature normal, and the pulse 84. On the following morning, by Professor Budin's directions and by his assistant, the gauze was removed and an intra-uterine douche was given (40 grammes of tincture of iodine and 6 grammes of potassium iodide to the litre), the temperature being normal and the pulse 74. At 6 P.M. a second intra-uterine douche was given, and three-quarters of an hour later *tout était à recommencer*—viz., temperature 102·6°, violent rigor, and rapid pulse. I therefore decided once more to pack the uterus and thereby prevent the accumulation of fluid. This dressing—namely, an intra-uterine douche followed by packing with iodoform gauze—I repeated the next morning and for 48 hours had the pleasure of seeing my patient maintain a uniformly good condition with normal pulse and temperature, the milk having, however, completely left the breasts, showing the intensity of the general infection. On the following day I replaced the gauze packing by a long intra-uterine glass drain and a vaginal gauze plug, the pulse being 72. In deference to the opinion of my consultants, who strongly recommended intra-uterine douching and equally strongly deprecated drainage of the uterus as risking contamination from the vagina and from without, I now—on the eleventh day—removed all drainage and gave an intra-uterine douche of iodised solution. There was almost immediately a rise of temperature to 101° and for 12 hours there was no discharge whatever. When the next douche was given the uterus was found once more to be filled with turbid, infective fluid. I therefore again inserted a glass drain and packed the vagina, and repeated this dressing on the following day. Discharge was now free and the temperature once more fell to normal. The patient's strength was, however, becoming exhausted and I felt that if a repetition of the absorption from the uterus occurred great danger would be run. Fortunately I was given a free hand by both the patient and her family and I continued the drainage for six days, soon replacing the glass tube with diminishing amounts of iodoform gauze. The twice-daily douching and dressing were troublesome and trying to both my patient and to myself but we were rewarded by a persistently normal temperature and pulse, a gradually increasing strength and appetite, and a feeling of assurance that the danger was over.

The patient recovered with the same remarkable rapidity as that with which she fell ill and on the eighteenth day after her confinement was able to be up. I may add that vaginal examination throughout detected no marked displacement of the uterus although the slight retroflexion present must have sufficed to kink the cervix and prevent the necessary discharge of lochia. Bacteriological examination of the fluid at the time of the curettage, on the eighth day, gave cultures of bacillus coli and micrococci of the tetrad group.

The interest of the case is great, for it is surely exceptional for the classical treatment of slight infection—namely, early curettage followed by intra-uterine douching—to fail. Not only did it fail but it seems morally certain, from the above record of the case, that it would have caused the patient's death or at any rate not prevented her death if persisted in.

In conclusion, if I may venture to point the moral, it is as follows: 1. Let the physician assure himself of the free flow of lochia in the days immediately following the confinement. Confidence in the assurance of the nurse upon this point may afterwards be regretted. 2. Drainage of the uterus, being simple, painless, and free from danger, should be practised early in certain cases.

Paris.

[1] The *écouvillon* or mop is made of stout quill mounted on a wire stem. It thoroughly cleanses the uterine surface without the cutting effect of the steel instruments. It is readily sterilised by dry heat and is cheap, costing only 5*d*. They may be obtained at Messrs. Down Bros. or any Paris instrument maker.

A CASE OF CIRRHOSIS OF THE LIVER IN WHICH CURE OF THE ASCITES FOLLOWED AN OPERATION FOR THE RELIEF OF STRANGULATED UMBILICAL HERNIA.

BY JOHN CLAY, M.B., B.S. DURH., F.R.C.S. ENG.,
ASSISTANT SURGEON TO THE ROYAL VICTORIA INFIRMARY, NEWCASTLE-ON-TYNE; DEMONSTRATOR OF ANATOMY IN THE UNIVERSITY OF DURHAM.

ON Dec. 18th, 1906 I was asked by Dr. G. Armstrong Atkinson to see a patient who was suffering from strangulated umbilical hernia. The history of the patient, a man, aged 60 years, was that for four years he had suffered from ascites due to cirrhosis of the liver and during the latter part of the period the condition had become complicated by a hernia at the umbilicus. As so often happens in these cases, the present attack began very gradually with symptoms of obstruction of the lumen of the bowel, and it was only during the last day that signs of strangulation of the vessels supplying its walls appeared. On the night on which I saw the man he was very ill and as evidence of the strangulation a basin containing rather more than a pint of fæcal vomit was shown to me. There appeared to be little hope of a successful result for operation but none at all if affairs were allowed to take their course. The copious fæcal vomit absolutely contra-indicated a general anæsthetic, so I determined to relieve the condition, using a local anæsthetic only. β-eucaine was employed, about three grains boiled in one ounce of water with a little common salt. After cleaning the skin the neck of the sac was clearly exposed and the peritoneal cavity was opened immediately above it. From the peritoneal cavity the finger was passed into the sac which was then laid open together with its numerous ramifications, and the strangulation which was in one of them was relieved. The gut where strangulated was almost gangrenous, though recovery did not seem impossible. During the operation large quantities of ascitic fluid escaped. The bowel was returned to the abdominal cavity and the wound was sutured longitudinally in the usual way.

The patient, though somewhat wayward, made an excellent recovery and his medical attendant tells me to-day that he is better than he has been for some years and that no ascitic fluid has re-collected. The local anæsthetic acted well and no pain was felt in making the skin incision, but the parietal peritoneum was extremely tender, considerably adding to the

difficulty of inserting the sutures. The bowels are not naturally sensitive and therefore no discomfort was felt from their handling.

The method of opening the peritoneal cavity on the proximal side of the hernial sac as an early step in the operation for the relief of strangulated hernia has often proved of service to me. In this case it shortened the duration of the operation, a matter of considerable importance when the anæsthetic is local and when the general condition of the patient is bad. The whole procedure only took 35 minutes.

In inguinal as well as in femoral hernia this method enables the bowel both above, below, and also at the site of the stricture to be inspected thoroughly, just as it lies, without pulling down of the constricted part and so running the risk of tearing the softened coats. In inguinal hernia there is no difficulty in opening the peritoneal cavity on the proximal side of the neck of the sac, but in femoral hernia the sac is so surrounded by important structures that at earlier operations I could not see any way of following out this principle in cases where it appeared necessary. However, in working at the anatomy of the part I saw that Poupart's ligament could easily be raised from the femoral vessels and space obtained towards the outer side of the femoral canal. The deep epigastric vessels may require division and the vas may need to be drawn aside. Enough room may be obtained in this way to get the hand into the abdominal cavity if necessary. In femoral hernia it is the narrowness of the neck of the sac which causes the constriction and not Gimbernat's ligament, which has so often been blamed. By incising the neck of the sac on the outer side, this ligament, which is as a fact an expansion of the inner attached end of Poupart's ligament, is spared and an almost perfect repair is made possible.

In a case of Richter's hernia I was able by this method of entering the peritoneal cavity to find the piece of bowel in which a small patch of the wall had sloughed, thus avoiding the necessity of dividing Poupart's ligament. This patient, whom Dr. R. B. Lorraine and Dr. D. C. Welsh had asked me to see, made a good recovery—a rare event with this variety of hernia.

Newcastle-on-Tyne.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL

A CASE OF MALFORMATION OF THE THUMB.

BY BRYAN PICK, M.R.C.S. ENG., L.R.C.P. LOND.,
SURGEON, R.N.

THE following malformation came under notice quite recently in a case in which a very curious history was given. The man states that before he was born his mother was bitten by a crab. The left thumb is not unlike a crab's claw. There

FIG. 1.

are two distinct ungual phalanges, each bearing a nail. There are two joints which allow of a certain amount of movement, he being able to pick up small articles with the two "thumbs." The first phalanx is double as far as the base where it articulates with the metacarpal bone in the ordinary way. The interspace is filled in by a web. (Fig. 1.) It seems that the two shafts of the phalanx have been developed from separate centres and that the base has only had one centre,

FIG. 2.

as there does not appear to be any sign showing two centres which have subsequently become fused. (Fig. 2.) The condition causes the man no inconvenience and he has no other abnormality. There are no means of finding out at what period of the mother's pregnancy the incident took place.

HÆMOPHILIA TRANSMITTED THROUGH THE MALE.

BY A. J. SWANTON, L.R.C.P. & S. IREL.

THE following note of a hæmophilic family that has recently come under my notice presents an example of an unusual method of transmission in this disease. It arose *de novo* in S. P., in whose parentage or ancestry no history of it could be traced; he suffered from severe hæmorrhage from the most trivial cut and also from epistaxis. He had 13 children, all of whom were free from the affection with the exception of one son, J. P., who was a "bleeder" from infancy; it is a pious opinion in his family that this fact was due to the father, who was suffering from a brisk epistaxis, having rushed home and frightened his wife who was then pregnant of the son, J. P. I had no personal knowledge of S. P.'s case, but know the son, who is now over 40 years of age, and his family, which consists of six girls and one boy, varying in age from two months to 19 years, all of whom show symptoms of hæmophilia except one girl aged eight years. Four have died, two boys at eight months and four years respectively, from "convulsions," said to have been due to epistaxis, and one boy, aged ten months, and a girl, aged two years and eight months, from pneumonia following measles accompanied by severe epistaxis and bleeding from the mouth.

The disease in J. P. chiefly takes the form of spontaneous epistaxis which is difficult to control and is preceded by malaise and headache. He also suffers from painful swelling of his large joints. All the children look healthy; they have very soft white skin and fair hair. The only surviving son suffers frequently from epistaxis, which is most alarming in its persistence. It is preceded, for a few days, by an elevated temperature with frontal headache, faintness, loss of appetite, and pain in the back. The elbows, wrists, knees, and ankles are swollen and very painful. With the onset of bleeding he perspires freely. Any form of traumatic bleeding is only controlled with the greatest difficulty. He also bleeds per anum when suffering from diarrhœa. A baby (girl), aged two months, has been subject to attacks of epistaxis from birth. The two girls, aged five years and 14 years respectively, suffer from troublesome attacks of bleeding, the chief form being epistaxis, and from the

mouth to a less extent, preceded by a general feverish condition and accompanied by swollen and painful joints. Traumatic bleeding in their case is also very persistent. The remaining two daughters, aged 17 years and 19 years respectively, are subject to very frequent and serious epistaxis as well as oozing of blood from the gums around decayed teeth. For some days previously to the onset they complain of frontal headache, feeling languid and faint, loss of appetite, and pains in the back. The joints become swollen and painful; the knees, ankles, and wrists are those principally involved. Perspiration starts with the bleeding, steam actually rising from their bodies. The loss of blood leaves them very weak, anæmic, and short of breath, but they seem rapidly to regain their health and strength again until another attack lays them prostrate. Menstruation is excessive in both cases and hæmorrhage from a cut or wound is extremely resistant to treatment. The mother of these children has told me she is kept constantly busy washing blood-stained cloths as it rarely happens for even a few days to pass without some member of her household bleeding. There can be no doubt that the disposition has been transmitted through the male line, the mothers of the two families having no history whatever of any tendency from either side to this affection.

When the patients have come under treatment the usual remedies have been tried with varying success, such as ergot, tinctura ferri perchloridi and calcium chloride internally, adrenalin externally, with rest and compression. I am rather anxious to know if there is any recognised form of treatment which would tend to counteract this tendency to abnormal bleeding.

The comparative rarity of these cases, together with the sense of helplessness in regard to treatment which confronts the ordinary practitioner, are my reasons for bringing them under notice.

Attercliffe, Sheffield.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Complications of Pneumonia.

A MEETING of this section was held on Nov. 5th, Dr. S. J. GEE, the President, being in the chair.

Dr. W. J. HADLEY, in reopening the adjourned discussion on the Complications of Pneumonia, said that the statistics supplied by the medical registrars of the London Hospital referred to the last ten years, and they must remember that those figures came from the working classes and he thought that they would differ in many ways from those collected from the well-to-do. In the first place it was noticeable that pneumonia was three times as common in the male as in the female. That difference held in all the returns except where children were concerned (East London Hospital for Children) where the figures stood at 443 males to 316 females. Secondly, the figures showed that mortality increased with age from about 5 per cent. to 49 per cent. Thirdly, it was seen that the mortality was rather higher in females than in males, males being 23·21 per cent. and females 25·45 per cent. In considering complications, it was most important to separate antecedent conditions from those which resulted from the disease itself. Many antecedent conditions considerably influenced the mortality. With alcohol as an antecedent condition the death-rate was 68·66 per cent. out of 105 cases. With cardio-vascular disease (including aneurysm) as an antecedent the death-rate was 46·14 per cent. out of 91 cases. In the case of chronic nephritis it was 82·6 per cent. out of 23 cases, and with chronic pulmonary troubles as an antecedent condition the death-rate was 31·64 per cent. out of 79 cases. In many of those cases the death was not due to the pneumonia at all but to the original disease, whilst in others it was simply a *modus moriendi*. At the same time it was most important to remember the greatly increased danger of pneumonia occurring in the course of some chronic diseases. Of complications as a result of pneumonia itself empyema, delirium, and pericarditis were the most important, and gangrene, abscess, endocarditis, and pericarditis were the most fatal. Pericarditis in a bad case of pneumonia was a difficult thing to diagnose and was often unsuspected; it should be most carefully watched for, as there was but little chance for the patient unless the pericarditis was opened and drained. It should be noted that, especially in the young, a pericardium distended with fluid pushed directly backwards and gave rise to marked dulness at the left base posteriorly simulating consolidation or fluid of the left lung and showed very little in front unless carefully searched for, when the displaced apex beat, hidden heart, and muffled sounds could generally be made out. In regard to abscess as a complication of pneumonia it was frequently an interlobar empyema. Concerning meningitis it must be borne in mind that meningeal symptoms were often present as a result of toxæmia without any meningitis. Retraction, headache, vomiting, irregularity of pupils, squint, fits, and twitchings might be observed, and he had seen the mastoids explored in such circumstances. Referring to peritonitis and colitis complicating pneumonia, Dr. Hadley said that "abdominal pneumonia" was a condition which they must recognise. They were quite familiar with the case admitted as appendicitis which after or before operation was transferred to the medical side as a pneumonia. They had probably all read the accounts of outbreaks of pneumonia in an institution where it was noticeable that many of the cases were purely abdominal, resembling enteric fever. He had seen an epidemic in a country village where nearly half the cases were abdominal, resembling enteric fever but of shorter duration, and several occurring in the same house, some being abdominal and others pulmonary. Sometimes acute paralytic distension of the stomach occurred which was apparently toxic, but it was often seen in lesser degree in the intestines, especially the colon. He knew nothing which embarrassed the heart so much in pneumonia and it was most important to get rid of it by enemas or by using a long tube. He had left the tube in sometimes as the condition recurred so frequently. Gentle massage would often enable the patients to pass the flatus through the tube readily. In regard to arthritis as a complication of pneumonia, he noted that most of the cases were in patients younger than ten years of age. The treatment by inoculations was hindered by the difficulty of getting cultures. The acuteness of the disease made it hard to get vaccine before the crisis occurred and many cases were admitted to hospital only a short time before the crisis. In his opinion the more chronic complications would give the best chance for inoculations such as arthritis and empyema. Pneumonia, rheumatism, and tubercle formed a group of which it could be said that one attack appeared to predispose to subsequent ones. With such a characteristic how could they expect a preventive inoculation; at any rate the immunity must be very short-lived.

Dr. N. DALTON considered that when lysis was observed it could be explained by the fact that there was some latent complication or some secondary infection interfering with the ordinary course of the pneumonia. With reference to dilatation of the stomach he did not think that it was an uncommon complication.

Dr. A. M. GOSSAGE thought that the complications of pneumonia were more important in childhood than in adult life and the death-rate in children from complications was higher than in adults. In children under the age of one year it was found that there was great mortality from the toxæmia of pneumonia. In children a large number of cases occurred of primary pneumococcic empyema.

Dr. A. C. LATHAM said that, judging from the monthly returns made at St. George's Hospital, the maximum incidence of pneumonia was in May and in October. About May people were prone to take to their thin clothes too soon and about October people sometimes failed to take to their warmer clothing soon enough. He had been told that the Bulawayo hospital statistics showed that in the rainy season the beds were full of cases of malaria and in the cold season the hospital was crowded with cases of pneumonia. In regard to the knee-jerk in pneumonia, out of 120 cases investigated it was present in 90, and it was sluggish or absent in the remaining 30. Referring to the treatment of pneumonia by antidiphtheritic serum he said that it had been tried in severe cases where the prognosis was grave and in no case in which the serum had been given had the temperature reached the point where it stood before the introduction of the serum.

Dr. J. FAWCETT stated that the Guy's Hospital cases did not include "terminal" pneumonias and that probably accounted for the fact that the mortality-ratio was only 15·6 per cent.;

if "terminal" cases were included the mortality-ratio was 19·9 per cent. It seemed of importance for the proper collation of those cases that the statistics should be corrected in that particular. He then drew attention to Dr. Hector Mackenzie's statement in reference to the fact that no case of pleural effusion requiring paracentesis had occurred in the figures of ten years from St. Thomas's Hospital. The rarity of that complication was well known, but at the same time his experience seemed somewhat exceptional. In the 15 cases recorded from Guy's Hospital only three required tapping and even in those the quantities removed were small—namely, a pint, half a pint, and a pint respectively. There was no case of chronic pneumonia among the Guy's Hospital cases and in looking over the records for 23 years there was no case of the kind which without doubt followed lobar pneumonia.

Dr. H. A. CALEY said the occurrence of empyema materially influenced the gravity of a case of pneumonia but not to so great an extent as some of the hospital statistics suggested. After commenting on the myocardial weakness recognised in cases of pneumonia he went on to describe the toxæmia, pyrexia, and deficient oxygenation which were usually present in grave cases of pneumonia. He thought that primary muscular weakness due to those three factors was very important. There were certain cases of pneumonia following influenza in which death ensued very rapidly with symptoms of cardiac and respiratory failure and the question arose as to whether those deaths were not due to a toxæmic depression of the medullary centres.

Dr. S. WEST said that in regard to knee-jerks in pneumonia they were important from the point of view of prognosis. In those cases where the knee-jerks disappeared late the prognosis was more favourable than in those cases where they disappeared early. It was probable that further research would lead them to take the same view about the pneumococcus as they held about the streptococcus, of which there were several kinds producing different pathogenic results.

After Dr. W. LANGDON BROWN had spoken Dr. MACKENZIE wound up the debate. He remarked that it showed the comparative rarity of the complications of pneumonia and he suggested that the Royal Society of Medicine should approach the hospitals with the view of obtaining statistics concerning the cases of pneumonia treated by vaccines.

SURGICAL SECTION.

Removal of Goitre by Operation.

A meeting of this section was held on Nov. 12th, Mr. J. WARRINGTON HAWARD being in the chair.

Mr. JAMES BERRY read a paper entitled "An Analysis of 274 Additional Cases of Removal of Goitre by Operation," which will be found printed in full in this issue of THE LANCET, p. 1366.

Mr. WARRINGTON HAWARD said that ether had not been used in the operation. The cause of death in the small mortality in the series of cases was ascribed to cardiac failure. If some more stimulating anæsthetic than chloroform had been used, such as ether, cardiac failure might have been lessened.

Sir VICTOR HORSLEY said that he believed Kocher did not use drainage in the majority of cases at the present time but he (Sir Victor Horsley) agreed with Mr. Berry in draining for a brief period. He had never allowed anæsthetists to give ether in those operations for the last ten years because the patient secreted mucus freely. If dyspnœa was observed in the patient on the operating table the anæsthetist was either giving too much chloroform or he was not giving the right kind of anæsthetic.

Mr. W. G. SPENCER said that quite apart from cases of exophthalmic goitre where there was dyspnœa there were cases without enlargement suffering from extreme rapidity of pulse in which he thought a small operation was beneficial—that is to say, dividing the isthmus and taking away a little thyroid gland on each side. He advocated operating on patients late in life with enlargement of the thyroid gland because the tumour might become malignant.

Mr. H. J. PATERSON described the use of the open method of giving ether in operations on the thyroid and said that it did not cause any increased secretion of mucus.

Mr. BERRY, in reply, said that ether by the open method was well worthy of a trial.

CLINICAL SECTION.

Exhibition of Cases.

A MEETING of this section was held on Nov. 8th, Sir THOMAS BARLOW, the President, being in the chair.

Mr. JONATHAN HUTCHINSON, jun., showed a case of Trigeminal Neuralgia. The patient was a man who had suffered for five years from epileptiform neuralgia. An intracranial neurotomy of the second and third divisions of the fifth nerve had proved unsuccessful, so Mr. Hutchinson removed the Gasserian ganglion leaving the ophthalmic division, with the result that there was complete relief from pain. The case showed that intracranial neurotomy in such cases was not followed by permanent cessation of the symptoms.

Dr. BERTRAM L. ABRAHAMS showed a case of Myopathy. The patient was a man, aged 43 years. There was wasting of the pectoralis major, quadriceps, gluteus maximus, and supraspinatus on both sides, and to a less extent of the pronato-flexors of the left wrist, right hypothenar muscles, and both latissimi dorsi, together with the abductor and adductor muscles of the thighs. The calf muscles were flabby. There was hypertrophy of the deltoids and serrati magni, and to a less degree of the infraspinatus and rectus abdominis. The erect posture was only maintained by violent lordosis; the ascent from the horizontal was effected by "climbing up" the legs. The gait was straddling, on a wide base, and the patient walked entirely on his toes, the heels never touching the ground. Dr. Abrahams pointed out the unusual features in the case and showed that it was most nearly allied to Erb's juvenile form of muscular atrophy but that the anomalies presented lent support to the view that all the true myopathies were varieties of the same disease.

Mr. T. H. OPENSHAW showed a case of Recurrent Dislocation of the Shoulders cured by operation. The patient was aged 27 years. He had been the subject of recurrent dislocations of the shoulders, the result of epileptic fits since 1896. He had been treated with injections into the joint, rest, and splinting without avail. The right shoulder-joint had been dislocated 50 times. Removal of a small portion of cartilage from the surfaces of the joint had proved ineffectual. Division of the pectoralis major was also ineffectual in preventing re-dislocation. The successful operation consisted in detaching the insertion of the subscapularis from the humerus and attaching it to a portion of the deltoid muscle. Mr. Openshaw had performed that operation three times, with a permanent cure in each case. The cases had been watched for six years, two years, and 16 months respectively.

Dr. W. P. HERRINGHAM showed a case of Pigmentation with Enlarged Spleen and Leucopenia. The patient was a man, aged 40 years, of hitherto excellent health and physique, who had never left England or suffered from syphilis. For two years he had noticed pigmentation over the body; he had lost two stones of weight in the last year; for six months he had been feeling languid, and for five months had felt too weak to work. He began to vomit about five months ago in periodic attacks which lasted sometimes as long as three days and the vomit had thrice contained blood. The whole of the body was pigmented, with patches of lighter colour at the sides. The penis and scrotum were parti-coloured, some parts being very dark and others lighter than natural. The neck was very dark also. There were light patches, which appeared even lighter than natural, on the cheeks, and there were normal patches on the hands. The spleen was much enlarged, nearly to the umbilical level and nearly to the middle line. The man had greatly improved in strength and had had no vomiting since admission to hospital. He had been treated with liquor arsenicalis in 10-minim doses.

Dr. HERRINGHAM also showed a case of Neuritis of the Right Brachial Plexus following an attack of rheumatism. The patient was a lad, aged 17 years, who on August 23rd was suffering from a swelling of the right wrist-joint. There was no evidence of endocarditis, old or recent. After two or three days' treatment with salicylate of sodium the swelling in the wrist had gone and he was free from pain. But on Sept. 3rd he again complained of pain in the right shoulder, and on the 7th some wasting was visible in the deltoid. There was considerable tenderness on pressure of the soft parts in the axilla against the head of the humerus. Complete reaction of degeneration was found in the deltoid on Sept. 18th. Patches of anæsthesia, some slight and others

marked, made their appearance in areas involving almost every root in the plexus. The musculo-spiral could be felt thickened and tender on the outer side of the humerus. The lesions spread. On Oct. 3rd there was reaction of degeneration in the spinati, deltoid, biceps, and brachialis anticus, and weakness in the extensors and flexors in the forearm. The flexor carpi ulnaris and the intrinsic muscles of the hands were normal. On Nov. 5th he had regained a little power in the movements of the wrist. He had been treated at first by salicylate of sodium in 20-grain doses and lately by electricity, intra-muscular injections of strychnine, and thyroid extract.—In reply to some remarks of Dr. SIDNEY PHILLIPS Dr. HERRINGHAM said the neuritis might be described as perineuritis.

Dr. R. MURRAY LESLIE showed two cases of Congenital Heart Disease in adults. The first was that of a woman, aged 22 years, who had cyanosis and clubbing of the fingers from birth. She was intensely cyanosed, the lips, the ears, the nose, and the tongue being of a dark bluish-violet colour. A soft blowing systolic murmur was audible over the left margin of the sternum, the point of maximum intensity being the fourth left costal cartilage. There were probably a patent ventricular septum and other associated abnormalities. The main interest of the case lay in the fact that the patient had been able to reach adult life in spite of the extreme degree of cyanosis. The second case was that of a woman, aged 30 years, who had been under observation for the past ten years. At the age of nine years the case was diagnosed as pulmonary stenosis. The patient was a well-nourished, almost adipose, woman and complained principally of attacks of giddiness and breathlessness. There was a moderate degree of cyanosis, most noticeable in the lips. The fingers were clubbed and the nails were livid. The temperature was subnormal. The skiagram showed marked enlargement of the right ventricle. There was a loud harsh systolic murmur audible over the præcordia but loudest in the pulmonary area. The principal lesion in this case was undoubtedly pulmonary stenosis although there was probably also some patency of the septum. The interest of the case lay in the fact that the patient had now entered her fourth decade and appeared to be in better health than ever.

Dr. A. M. H. GRAY (introduced by Dr. H. BATTY SHAW) showed a woman, aged 41 years, with typical signs of Myxœdema who gave a history of having suffered 16 years previously from exophthalmic goitre. When first seen three years ago she had a considerable quantity of fluid in the abdomen and had been tapped on two occasions within the previous two years; the history and physical signs suggested the possibility of a ruptured ovarian cyst. The ascites, however, cleared up completely after giving thyroid extract by the mouth but recurred to a slight degree when the treatment was discontinued and again disappeared on resuming treatment. The thyroid gland could not now be felt but a small papillary growth of the size of a pea was present on the dorsum of the tongue near the foramen cæcum and the question was raised as to whether this might be a lingual goitre or a papilloma of the tongue.—In reply to Dr. L. G GLOVER, the PRESIDENT observed that in Vols. XXXI. and XXXII. of the Transactions of the Clinical Society a case of myxœdema supervening on Graves's disease was described.

Dr. JOHN FAWCETT read a paper on Pneumothorax treated by Aspiration under the X Rays. The patient, a man, aged 22 years, was admitted into Guy's Hospital on June 5th, 1907, with a pneumothorax on the right side. 19 days after the onset of the pain the condition of the chest was found to be much the same as on admission, very little absorption of air having taken place. The patient was placed on his back on the couch in the x ray room. The screen was put over the front of the chest and a trocar and cannula of the usual form employed in aspirating the pleural cavity were then inserted into the pleural sac in front of the posterior axillary fold in the sixth or seventh space. The lung was seen compressed towards the spine and therefore the distance that the trocar could be passed so as not to touch the lung could be determined. As the lung expanded the cannula was gradually withdrawn until it was flush with the inner surface of the chest wall; when the lung appeared to be expanded fully the cannula was withdrawn and the puncture sealed. The lung was seen to remain expanded and to expand and to retract with the respiratory movements. The improvement and relief produced by aspiration were immediate and persistent. The patient was seen again on Nov. 6th last; he looked in excellent health and said he felt so well that he had continued his work regularly.

LARYNGOLOGICAL SECTION.

Exhibition of Cases and Specimens.

The first meeting of this section was held on Nov. 1st, Dr. J. BARRY BALL, the President, being in the chair.

After the PRESIDENT had announced the receipt of messages wishing success to the section the following communications were made:—

Mr. ALEXANDER R. TWEEDIE exhibited a microscopic specimen of a Localised Pulsating Growth of the Middle Turbinal which had given rise to recurrent severe epistaxis.

Dr. DAN MCKENZIE showed a case of Paresis of the Right Vocal Cord and a case of Fistulous Opening in the middle line of the neck; the latter was considered to be a persistent thyro-glossal duct.

Mr. F. A. ROSE exhibited a Chicken Bone which was removed after nearly 48 hours' impaction in the larynx but which had caused neither dyspnœa nor cough.

Mr. HAROLD S. BARWELL showed a case of an extreme form of Septal Deviation; various opinions were expressed as to treatment. He also showed a case in which Thyrotomy has been performed one year and nine months before for Tuberculous Laryngitis; the larynx remained soundly healed and the lung disease was quiescent and in an early stage; there had been aphonia for 15 months before operation but the voice had now returned.

Dr. L. H. PEGLER showed a case of Tumour Attached to the Entire Length of the Vocal Cord; opinions as to its nature differed.

Dr. STCLAIR THOMSON showed (1) a case of Double Frontal Sinus Operation allowing comparison between the Ogston-Luc and the Killian methods; and (2) a woman, aged 40 years, in whom Extensive Tuberculous Laryngitis had become healed after tracheotomy and galvano-cauterisation.—Discussing the latter case Dr. J. DUNDAS GRANT agreed in recommending the cautery.

Dr. E. FURNISS POTTER exhibited a Tumour removed from the Naso-pharynx 15 weeks after operation for adenoids; it was considered that it consisted of blood-clot with a remnant of the adenoid vegetation.

Dr. PETER H. ABERCROMBIE made a further report on a case of Cellulitis of the Neck shown before the Laryngological Society in January, 1907; the case had proved to be one of epithelioma of the right side of the epiglottis, half of which had now been removed.—Mr. P. R. W. DE SANTI thought that a more extensive operation should be performed.

Dr. E. A. PETERS showed a case of Functional Paresis of the Palate and Cords.

Dr. F. SPICER showed a case of Ulceration of the Left Cord in a man, aged 40 years, who had been treated for hoarseness in 1903; there was a general opinion that the disease was malignant and further exploration was recommended.

Mr. H. CLAYTON FOX showed a case of Crusting in the Nose without Atrophy of the Turbinals.

Dr. W. JOBSON HORNE showed a case of Symmetrical Tumours on the Vocal Processes and a case of Inflammatory Nasal Obstruction apparently due to Syphilis.

Dr. HERBERT TILLEY exhibited a patient suffering from Nasal Syphilis.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Nov. 11th, Dr. J. KINGSTON FOWLER, the President, being in the chair.

Dr. G. F. STILL showed a case of Cleido-cranial Dysostosis. The patient was a boy aged six years. He was backward in walking and was only beginning to talk at three years and ten months. His thumbs were remarkable, the terminal phalanx of each appearing unduly short, with the nail curved antero-posteriorly. In the position of the anterior fontanelle ossification had failed, so that there was a widely open fontanelle which measured 4¼ inches antero-posteriorly and 3¼ inches laterally; its margins were not quite regular in outline. The clavicles showed a deficiency of the outer part.—Dr. F. J. POYNTON described a case in which the Clavicles were Absent but the Fontanelles were Closed.—Dr. STILL said that in these cases general dwarfing of the whole skeleton sometimes occurred.

Dr. T. D. SAVILL showed a case of Juvenile Tabes Dorsalis in a boy, aged 18 years, who looked about 14 years, presenting ataxy of the lower limbs, Rombergism, absence of knee-jerks, and Argyll-Robertson pupils. Those symptoms established the diagnosis of tabes dorsalis. He also presented tremor of the tongue and flickering of the buccal muscles on showing the teeth, symptoms which pointed to general paralysis of the insane. Throughout life the boy had had a difficulty in holding his urine, especially during the day time, but he was otherwise quite normal until the age of 14 years, when he ceased to grow and became childish 12 months ago he first became stumbling and clumsy in his gait. The father of the child, who was also an out-patient under the care of Dr. Savill, was suffering from advanced tabes dorsalis. An examination of the cerebro-spinal fluid of the boy obtained by lumbar puncture showed a large excess of lymphocytes which was in keeping with the diagnosis of tabes dorsalis.

Dr. POYNTON exhibited a boy, aged three years and five months, showing Precocious Development. When one year old he was noticed to be growing very fast and pubic hairs and sexual development were noticed. At three years and four months his weight was 3 stones 13¾ pounds; his height was 3 feet 8 inches. The boy's voice was deep. He was emotional and had an excellent memory. No suprarenal tumour was to be felt and the bones and muscles were remarkably developed.—Mr. HUGH LETT narrated a similar case which he had shown to the Society for the Study of Children's Diseases, and the PRESIDENT discussed the case from the point of view of internal secretion.

Dr. A. F. VOELCKER showed a case of Enlargement of the Liver.

Dr. F. S. PALMER showed a case of Primary Progressive Myopathy of the Facio-scapulo-humeral (Landouzy-Degérine) type.

Dr. C. W. CHAPMAN showed a case of Malignant Disease of the Œsophagus treated by intubation.

Mr. LETT showed a woman, aged 32 years, with Melanotic Sarcoma that started as a small speck on the left forearm six years ago. She now had 72 tumours, with some of which there was associated a considerable amount of subcutaneous hæmorrhage.

LIVERPOOL MEDICAL INSTITUTION.

Ataxia of Doubtful Origin.—Kroenlein's Operation.—Demonstration of the Orthodiagraph.—Elongated Meso-Cæcum.—The Roth-Drager Oxygen-Chloroform Apparatus.

A MEETING of this society was held on Nov. 7th, Mr. T. H. BICKERTON, Vice-President, being in the chair.

Dr. F. J. S. HEANEY described and showed a case of Ataxia presenting an unusual combination of symptoms and some difficulty in diagnosis. The patient, a painter, aged 52 years, developed a spinal curvature in the dorso-lumbar region when two years old—presumably as the result of caries. The curvature had caused no symptoms and the patient had never had syphilis. Ataxia, Rombergism, absence of knee-jerks, numbness of the feet, and diminution of pressure sense over the lower extremities appeared six months ago. There were no Argyll-Robertson pupil phenomena, no lightning pains, and no interference with the fields of vision or with cutaneous sensation. The muscle power and sphincters were normal. The cutaneous reflexes were normal, the plantar being flexor in type. The only alterations in his condition in the last six months were a transient left ankle clonus and a recent slight return of the right knee-jerk. The differential diagnosis between tabes, combined system degeneration, and recurrence of spinal caries with focal myelitis and posterior column degeneration was discussed, Dr. Heaney deciding in favour of the last diagnosis.—Dr. T. R. BRADSHAW said that the unusual feature in the case was the temporary restoration of the knee-jerk. The present condition apart from the history would justify a diagnosis of tabes and often in cases which were obviously specific no history of infection could be obtained. The Argyll-Robertson pupil was only observed in about 80 per cent. of cases of tabes. If the knee-jerks returned again he would suggest that the ataxia was due to a neuritis possibly caused by lead (there was a history of lead colic) producing a condition analogous to alcoholic pseudo-tabes.

Mr. R. J. HAMILTON gave a short description of Kroenlein's Operation and showed a successful case in which this operation had been done for a tumour surrounding the optic nerve and causing considerable proptosis. The tumour was a spindle-celled sarcoma and measured 1¼ by 1⅛ inches. The results were an eye with good vision, perfectly free movements, and very little scarring in the temporal region, the seat of the incision.—Dr. K. A. GROSSMANN remembered being consulted by the same patient who had been told at an eye hospital that the proptosis was due to one-sided exophthalmos, and recommending an operation. At that time a hard tumour could be felt between the lower outer orbital margin and the eyeball, and it was an open question whether it could not have been removed by a simple incision along the lower margin of the orbit. He considered that Kroenlein's operation was suitable for cases of retro-ocular tumour which could not be removed from the front without severe damage to the eyeball. Dr Grossmann described some of the modifications of the operation.—Dr. A. STOOKES and Mr. E. M. STOCKDALE also spoke.

Mr. C. THURSTAN HOLLAND showed, and explained the working of, the Levy-Dorn Orthodiagraph which had been in use at the Royal Infirmary since last June. This pattern allowed of the patient being examined either lying down, standing, or sitting. It was pointed out that the lying down position was undoubtedly the best and for this Mr. Holland had found the instrument devised by Professor Moritz the more trustworthy and the easier to work. Tracings of hearts at different ages were passed round.—Dr. DAVID MORGAN gave his experience of this and other methods.

Mr. D. DOUGLAS-CRAWFORD read a note upon two cases associated with Elongated Meso-Cæcum: 1. Volvulus of the Cæcum in a woman, aged 39 years, the torsioned mass lying above the umbilicus on the left side. Early operation resulted in a successful untwisting of the mass and the patient made a good recovery. 2. Malignant Cæcum in a man, aged 35 years. The "lump" lay in the right lumbar region, moved freely with respiration, passing up behind the liver and down as far as the iliac crest, but not reaching the iliac fossa. The mass was excised and later the fæcal fistula closed, but only after a lateral anastomosis had been effected between the ileum and the transverse colon. The patient was perfectly well one year after the excision of the growth.

Mr. F. M. GARDNER-MEDWIN gave a demonstration of the Roth-Drager Oxygen-Chloroform Apparatus, with a short note and report on 25 cases. The advantages of the apparatus were regular doses of known quantity and the easy control of the concentration of atmosphere. It was compared with other mechanical apparatus and stated to be of great value in serious cases when ether narcosis was contra-indicated. The cases reported were all serious ones and mostly of long duration. They all showed complete absence of cyanosis and in cases where ether had caused profuse salivation and venous engorgement the apparatus was particularly useful. One case of empyema, although the patient was unable to lie down and coughed up pus continually, after a few breaths of free oxygen easily bore the gradual exhibition of chloroform and was able to lie down and to take the anæsthetic quite easily.—Mr. W. FINGLAND said that the method of administering oxygen with chloroform was suggested by Mr. T. G. H. Nicholson of Liverpool some years ago. Mr. Nicholson's theory was that the lessened blood pressure produced by chloroform and the corresponding slowing of respiration and circulation interfered with the elimination of carbonic acid and caused its accumulation as an active toxin, which condition would be prevented by the administration of oxygen with the chloroform vapour. But Mr. Fingland was of opinion that the effect of the admixture of oxygen with the chloroform would be to inhibit to some extent the combination of chloroform with the red corpuscles of the blood and by this means to remove the real danger of chloroform narcosis. After referring in detail to several points of the Roth-Drager apparatus he suggested the more extensive use of ether by the Rochester method of administration as possessing the advantages of a safe and natural anæsthesia.—Mr. F. W. BAILEY thought that the length of time required for induction, the difficulty which would probably be met with in the case of full-blooded strong workmen, and the complications of the apparatus would prevent it coming into general use in hospital practice, while its cumbersomeness and want of portability would make it difficult to use in private practice; and, furthermore, he saw difficulties in the way of using it for mouth operations. The administration of anæsthetics could not be reduced to "rule of thumb."—Mr. G. P. NEWBOLT said that Mr. Gardner-Medwin had used the apparatus many times in major operations on patients under his

care. He was convinced that it was a most efficient way of administering chloroform. Patients appeared to suffer less from shock and their condition was better than when chloroform was given by one of the usual methods. He was not certain whether the oxygen caused some slight bronchial irritation and suggested that it should be warmed before being inhaled.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—President's Address.—Simple Operation for Uncomplicated Inguinal Hernia in Young Adults.—Election of Officers.

A MEETING of this society was held on Nov. 6th, Dr. J. O. AFFLECK, the President, being in the chair.

Mr. J. M. COTTERILL exhibited:—1. A man with an enormous Lympho-sarcoma of the Right Side of the Chest Wall with Enlargement of the Axillary Glands. The case was shown before it had been treated with the x rays. A former case which Mr. Cotterill had shown had done well while the x ray treatment was kept up but on the patient neglecting this the sarcoma recurred and ultimately an internal growth killed the man. 2. The case of a man who had been shown at a previous meeting some four months ago. He then suffered from a Large Angioma of the Right Ophthalmic Artery. Exophthalmos was then well marked and the blood-vessels were greatly dilated. Mr. Cotterill had ligatured the right carotid, however, and now as regards exophthalmos and ptosis the patient was absolutely cured, there being merely a slight internal squint.

Mr. H. ALEXIS THOMSON showed:—1. A boy, aged nine years, exhibiting Spontaneous Fracture of the Lower End of the Left Femur, probably the result of osteomyelitis fibrosa. The boy was thought at first to be suffering merely from "growing pains." The fracture had repaired itself very well but was very liable to recurrence. 2. A boy, aged eight years, with an Unusual Form of Greenstick Fracture of the Forearm; both bones were ununited and moved on each other. Marked angular deformity was present; the fracture had occurred two years ago and repair by operation had been attempted. Such cases were very difficult of treatment when in the lower extremity, but here he would resect part of the bones as there was nothing to fear from shortening the limb.

Mr. HAROLD J. STILES exhibited:—1. A man after repeated operations for Epithelioma of the Floor of the Mouth. The lower jaw, the tongue, the epiglottis, &c., had been entirely removed and a large gaping wound led into the trachea and œsophagus. He fed himself by passing a tube into the gullet. 2. A woman, aged 80 years, after operation for Malignant Disease of the Upper Jaw. 3. A case of Renal Calculus in a patient who had suffered from Pott's Disease of the Spine.

The PRESIDENT then gave his Valedictory Address, of which the following is an abstract: "In the parting words which constitute this valedictory address I desire to confine myself to a look rather at the present than at the past or the future. It will be in the recollection of some at least of the members of this society that on the first occasion of my occupying the chair I gave a cordial invitation to the younger members to take a part in the work and the discussions, pointing out the educative value this possessed for them. It is a gratifying fact to me on this my last appearance as President to recall the response which this invitation received. May I venture once more to renew the appeal? The future of a society like this, as a centre of scientific influence in our profession, lies largely in the hands of the young." [The President proceeded to review the recent great advance in medicine and said:] "There is nothing more conspicuous in the period covered by that to which I have referred than the development of the scientific spirit among workers in every department. Let anyone look into the current medical literature of 25 or 30 years ago and compare it with that of the present day and say whether in many respects we are not now reading a new language—a language born of research into the occult processes of disease. The relation of micro-organisms to morbid action has opened up in the science of bacteriology a new field of inquiry and produced a new literature. This has broadened the scope of medical science and made possible other lines of investigation of the most far-reaching importance." [The President instanced the advances made possible by the discovery of micro-organisms and the knowledge of their products and the help afforded by blood examination and by the use of many physical methods in the investigation of disease. He then proceeded:] "Nevertheless there will arise from time to time in the minds of not a few the question whether, in the large share of attention that these scientific methods claim and receive, there may not be the danger of overlooking altogether, or failing to give due consideration to, other sources of information not less important, and certainly not less interesting, if searched for and observed. Let us first consider nature's object-lessons in disease. That nature responds to morbid processes in the body in a manner more or less obvious to the senses is a truism that all will readily admit. But it is doubtful whether we habitually avail ourselves of all the information capable of being obtained by an attentive observation and study of altered appearances and characteristics. This information may in some instances be direct and accurate, in others indirect and suggestive. Accordingly a consideration of the physiognomy of disease seems to possess a legitimate claim upon our attention. This word physiognomy is not meant to apply merely to the facies of disease but to all the changes capable of being appreciated by our unaided senses. But even taking the more restricted significance of the term, is it not the case that, as regards not a few diseases, nature has depicted them upon the countenance. Not only may this be seen in many of the diseases of the blood where the aspect is unmistakeable, but much may be made out both as regards the identification and the progress of the case from a study of the facies in such maladies as pneumonia, pulmonary tuberculosis, Bright's disease, many forms of heart disease, chronic gastric disorders, exophthalmic goitre, myxœdema, general paralysis, and many others. Instances manifold arise in one's memory of helps to diagnosis obtained in this way. One or two might be quoted almost at random. A young man comes complaining of constant dyspeptic troubles with headache, vomiting, and growing weakness which the many stomachic remedies he has received have failed to remove. As he narrates his symptoms the physician scrutinises the patient's countenance and notices a peculiar glistening appearance of the eye (the dropsical conjunctiva) which immediately suggests an examination of the urine when the nature of the ailment is revealed for the first time. Again, a case of prolonged and persistent high temperature in a young woman which for a time caused great difficulty from the otherwise negative symptoms presented in her countenance such an aspect of well-being as to suggest that this might be one of those rare examples of hysterical pyrexia occasionally met with—this diagnosis being amply confirmed by the collateral evidence and by the subsequent progress of the case. The facies is of wonderful assistance in the diagnosis of typhoid fever, and my surgical brethren are only too familiar with the abdominal facies and its significance in view of, or subsequent to, the operation of laparotomy. Lastly, it seems hardly necessary to recall the remarkable change in the countenance observed on a favourable crisis in such diseases as pneumonia and typhus fever. Apart, however, from facial evidences there are numerous other objective indications which may prove largely contributory in determining a diagnosis. The attitude, the gait, the voice, the speech, the play of the features, the characters of a cough, and many other phenomena may be notable sources of information." [The President instanced a case of beriberi in which the diagnosis was made from the gait. He continued:] "It has long seemed to me that much might be learnt from the study of the character of coughs. I have the belief that in every disease which has cough for one of its symptoms there may be found something more or less characteristic in the cough. Certainly there are some which admittedly have their individual characters, such as the short suppressed cough of pneumonia, the irritable dry cough of early pulmonary tuberculosis, the hysterical cough, the barking cough of puberty, the cough of chronic bronchitis in old people, the cough of capillary bronchitis in children, to say nothing of the spasmodic cough of whooping-cough, the changing cough of intrathoracic pressure, and many others. I have sometimes fancied the cough in a case of pyopneumothorax had a sound of its own. It is hardly necessary to recall the fact that but for objective indications it would many a time be practically impossible to recognise and interpret the evidences of disease in children. What, then, can

be regarded as the real value of such methods seeing they are confessedly uncertain? Their value lies in the aid they afford to the prosecution of further inquiry; also in the suggestions and associations of ideas which are awakened in the mind when the attention is directed to particular points in an investigation. Granting this, do these so-called object-lessons in disease not more properly belong to the period in professional life when sufficient experience has been gathered to utilise them? This is only partly true. These phenomena are open to observation and the exercise of this faculty, which lies at the foundation of all clinical progress, cannot be begun too early. Assuredly it may be cultivated by all, notwithstanding the fact that it comes easier to some than to others. It is at no time an entirely easy matter, seeing that it includes a great deal more than mere perception. It has been affirmed of some eminent literary characters that they possessed the power of being able to find out all that was in a book by merely glancing over a few pages here and there. The book of disease, as set forth in the individual, is not to be read to any good purpose in this fashion, but every page, every sentence, every word must be studied and weighed if we are truly to interpret its contents. As one who has, over a long series of years up to the present time, enjoyed the privilege of engaging in clinical teaching might I venture with all respect to suggest to my brethren in the work the importance of keeping before the student the fact that nature has object-lessons to teach regarding many—perhaps nearly all—diseases, if only we can find them out and read them?" [The President next considered Clinical Impressions, about which he said:] "The careful prosecution and the mental registration of observations in disease lead in process of time to the experience of what, for want of a better term, I would venture to call clinical impressions. By that is meant the view that is conveyed to the mind, when brought in contact with any case of disease, as to the patient's condition and his prospects. This, whatever may be thought of it, has long appeared to me to be one of the most valuable assets in the practitioner's possessions, which, moreover, may oftentimes be turned to practical account in his efforts at treatment. For confirmation of this my appeal must of course be made mostly to my senior brethren. Is it not the case that in not a few instances there comes to one an impression or an admonition which could not find expression in words but which yet gives a view of the patient's state that often proves to be true and which may indicate at the same time a line of treatment that might otherwise have been overlooked? One advantage which this acquisition possesses consists in the power it sometimes gives us of inspiring hope in circumstances where appearances might indicate the contrary. No doubt such impressions as I have referred to may occasionally be ill founded or erroneous, and certainly they are never to be put in competition with, still less made to substitute, the most detailed and exhaustive examination possible, but yet that there is on the whole a substantial practical value in them cannot, I think, be seriously disputed." [The third point discussed by the President was the Psychical Factor and its Relation to the Practitioner, about which he said:] "It is never to be forgotten that when called to deal with any case of illness we are dealing not merely with pathological phenomena but with the man or woman or child who is the subject of them. And just as certainly as that few diseases are not attended with some more or less observable outward and visible sign, so there are few where the mental or psychical elements of the nature are left wholly untouched; and their influence and reaction upon each other form oftentimes an important and difficult problem. Sometimes the mental outweighs the physical and has to be reckoned with and treated before the health can be restored. But probably more often the reverse holds good." [The President, after quoting a story of Sydenham's practical recognition of the psychical factor in treatment, proceeded to emphasise the importance of the mental attitude of the patient towards his disease as seriously affecting its issues, and continued:] "This reckoning with the patient's mental condition, alike for diagnosis and treatment, may impose demands upon the forbearance and charity of the practitioner but the output of these virtues will in the long run seldom be in vain. I have directed attention to the importance of the scrutiny of the face in disease. But it is ever to be remembered that there is another aspect of the matter and that is the scrutiny of the practitioner's face by the patient. It is surprising with what penetration and accuracy some sufferers will read into the thoughts and views, the hopes or fears, of their medical attendants. It is well if the patient can read in the physician's face that which inspires confidence and brings hope and courage. It is better if, in addition, he recognises that divine quality of sympathy which seems to lighten and to bear away some of the heavy burden of sickness and gives strength and solace, even in the presence of the last enemy." [After these words the President devoted an eloquent peroration to thanking the society for having elected him two years ago to the office which he was bringing to an end and testified strongly to the value of the work of the society.]

Mr. GEORGE L. CHIENE read a Preliminary Note on a Simple Operation for Uncomplicated Inguinal Hernia in Young Adults. The hypotheses on which he based the operation were: (1) That oblique inguinal hernias in young adults were due to a pre-formed sac; (2) that the muscles in the region of the inguinal canal would soon regain their normal action if the sac was obliterated at the internal ring; and (3) that it was quite unnecessary to dissect out the sac if the neck was obliterated. The operation which he suggested was one which attacked the *internal* ring by making an incision directly over it, exposing the neck of the sac, ligaturing it after division at the internal ring, and then suturing the external oblique by the overlapping method. The internal oblique muscle, the transversalis muscle, and the remainder of the sac were in no way interfered with. Mr. Chiene brought evidence to show that oblique inguinal hernia in adults was probably congenital, and, further, that removal of the sac was unnecessary if it were efficiently dealt with at the internal ring. He quoted cases which had been operated on during the last 18 months with satisfactory results and stated that ligation of the neck of the sac in children had been proved to be efficient. If it was admitted that the same cause gave rise to oblique inguinal hernia in young adults, then the operation he suggested was the simplest possible. He further pointed out that it was an operation that could easily be performed with a local anæsthetic.—Mr. CHARLES WATSON MACGILLIVRAY, while agreeing with most of the suggestions which Mr. Chiene had made, thought that inguinal hernia was probably acquired in old age from the long-continued intra-abdominal pressure induced it might be by prostatic hypertrophy, chronic bronchitis, &c.—Mr. E. W. SCOTT CARMICHAEL thought that it was not sufficient merely to ligature the neck of the sac in young children where it was already thickened.—Mr. J. W. DOWDEN said that the great essential was to see that the abdominal muscles were strengthened by judicious exercise.—Mr. J. W. STRUTHERS and Mr. COTTERILL also took part in the discussion and Mr. CHIENE replied.

Mr. COTTERILL exhibited the following specimens: (1) From a case of Panhysterectomy for Fibroids and Ovarian Dermoids; (2) Pyosalpinx complicating Appendicitis; (3) Spindle-celled Sarcoma of the Foot; (4) Hydatids of the Liver; and (5) Tumour of the Cerebellum, successfully removed.

The following gentlemen were elected office-bearers for the session 1907–08:—President: Dr. James Ritchie. Vice-President: Mr. C. W. MacGillivray. Councillors: Professor H. Harvey Littlejohn, Dr. W. G. Aitchison Robertson, Dr. G. Keppie Paterson, Mr. W. Guy, Dr. J. O. Affleck, Mr. George A. Berry, Dr. G. Lovell Gulland, and Dr. Claude B. Ker. Treasurer: Mr. J. W. Dowden. Secretaries: Mr. David Wallace and Dr. F. D. Boyd. Editor of Transactions: Dr. William Craig.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Some Unusual Abdominal Cases.—Ligature of the Innominate Artery.

A MEETING of this section was held on Nov. 1st, Sir HENRY R. SWANZY, the President, being in the chair.

Mr. GRAVES STOKER read a paper in which he gave the clinical history of a number of interesting Abdominal Cases. In one of these, a woman, who had suffered for a number of years from almost incessant vomiting and extreme emaciation and who had been diagnosed by a late distinguished surgeon as having malignant disease of the stomach, obtained complete relief from her symptoms after an exploratory laparotomy in which the stomach was found to be quite

normal. In another case, apparently of hydronephrosis, the patient, a woman, had the power of emptying the sac, the capacity of which was several pints, more or less at will.—Dr. W. I. DE C. WHEELER said that all the cases showed points of interest and spoke with approval of the results obtained through the adoption of the method of continual saline injection as practised by Murphy of Chicago. The theory advanced by Murphy to explain the great improvement in his results was that the lymphatic circulation in the abdomen was reversed and the saline pouring in prevented the toxins of pus going the other way.

Sir THOMAS MYLES read a communication on a case of Ligature of the Innominate Artery. In the course of a very interesting paper he described the symptoms and signs presented by a male patient, aged 29 years, who suffered from a right subclavian aneurysm. He gave the reasons why he was led to reject treatment by Syme's method of opening the sac, followed by ligature of the artery on the proximal and distal sides, and also the treatment by distal ligature alone in favour of ligature of the innominate artery. The chief of these was that the most frequent cause of failure in previous attempts—namely, secondary hæmorrhage induced by sepsis—could now almost certainly be prevented. Most of these operations had been carried out in the pre-antiseptic era, while Mr. C. Coppinger's case, which was brilliantly successful, was performed with strict antiseptic precautions. He then discussed the methods of approach to the artery, finally selecting a median incision in the lower part of the neck, the ligature being accomplished without division of the sterno-mastoid, resection of the inner end of the clavicle, or trephining the sternum. In addition to securing the innominate he placed a double ligature on the right common carotid dividing the artery between. He expressed the opinion that in carrying out this step he left too short a distance between the two ligatures and that to this the failure of the operation was due. He then detailed the subsequent progress of the case, which was at first very favourable. The wound healed by the first intention, the pain caused by the aneurysm disappeared, and the patient felt very well. The pulsation in the aneurysm, however, persisted. About ten days after the operation a large subcutaneous hæmorrhage occurred, which was treated by reopening the wound and securing the bleeding vessel which could not be identified. Subsequent hæmorrhages, however, took place necessitating further operations which for a time checked the bleeding. The wound now began to suppurate, the hæmorrhages continued to take place, and, finally, the patient died about a month after the first operation. The post-mortem examination showed that the source of hæmorrhage was the carotid artery from which one of the ligatures had slipped.—Mr. WILLIAM TAYLOR said there were, after all, only two reasons why success should not attend the effort to ligature the innominate artery—first, failure in the establishment of the anastomotic circulation of the brain; and, secondly, sepsis. The surgeon ought to be able to control the latter, and therefore should be able to control the secondary hæmorrhage. Yet they all knew how possible it was for some septic infection to creep in, and in Sir Thomas Myles's case it was just possible that there might have been some source of infection in the bottom of the wound in the deep structures. Barwell had drawn attention to the fact that death in such cases almost invariably arose from secondary hæmorrhage and had stated that if ever he came to ligature the innominate artery he would ligature the vertebral artery as well as the innominate and carotid.—Sir THOMAS MYLES, in reply, stated his belief that the cause of failure was that the ligature on the common carotid had slipp d.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 1st, Dr. J. Walker Downie, the President, being in the chair.—Dr. G. Burnside Buchanan showed an infant who had been operated on for relief of an Imperforate Anus when two days old. There were no signs of intestinal obstruction. The child was small and the skin was dry and wrinkled. There was an anal dimple a quarter of an inch deep. The blind end of the anus was found one inch deep. There was no cord of denser tissue between it and the skin. The rectum had to be separated for three inches from the perineal surface before the end could be brought down to the edge of the wound. Eight weeks after operation the child was very well.—Dr. A. J. Ballantyne showed: 1. A case of Syringomyelia with Eye Symptoms, chiefly unilateral. The general symptoms began in the left arm and were still more marked on that side. There were drooping of the upper lid, contraction of the pupil, and exophthalmos on the left side. The left pupil did not dilate in the shade, on sensory stimulation, or on the application of cocaine. Both optic discs were pale, especially the left, and there was well-marked contraction of the visual fields for white and colours. Nystagmus was present in the left eye. 2 A case of Albuminuric Retinitis with Vascular Changes in a man, aged 36 years. The man had a contracted white kidney. There were four small globular aneurysms in the course of the retinal arteries which disappeared in four or five months. Blood pressure was persistently high.—Dr. T. K. Monro reported a case in which degeneration in the spinal cord was associated with profound anæmia. The patient, aged 28 years, was a compositor, and after rheumatic pains in the knees his legs became so stiff and weak that he frequently fell. He then suffered from pains in the stomach and blood corpuscles were found in the stools but there was no other sign of gastric ulcer. The knee-jerks were lost and there was marked ataxia. Sensation was unimpaired. An examination of the blood gave red blood corpuscles, 2,042,000 per cubic millimetre; white blood corpuscles, 6400 per cubic millimetre; hæmoglobin, 15 per cent.; colour index, 0·3; differential count—polymorphonuclears, 77·6 per cent.; small mononuclears, 18·1 per cent.; transitional, 1·8 per cent.; eosinophiles, 1·8 per cent.; one normoblast was seen. The temperature was irregularly febrile. Treatment by iron, arsenic, and calcium improved the blood condition but the general condition failed and death took place. A post-mortem examination revealed atheroma of the aorta, hypertrophy of the left ventricle, pyæmic abscesses in the kidneys, and a large chronic ulcer in the stomach (about the centre of the small curvature). Microscopic examination showed sclerosis of the posterior columns of the cord, most marked in the lumbar region, and slight sclerosis of the pyramidal tracts. Dr. Monro considered the degeneration of the cord and largely also the anæmia to be due to a toxin evolved or absorbed in connexion with the chronic ulcer of the stomach.—Dr. A. Bankier Sloan read notes of an interesting case of Severe Diphtheritic Paralysis. The points of special interest were: first, the case was one of very severe infection, the fauces and nose being extensively involved; over and above this profuse epistaxis and hæmorrhagic ecchymosis were both present; the child received in all 72,000 units of antitoxin. Secondly, the paralysis was severe and dangerous, the heart, pharyngeal muscles, larynx, palate, and probably also facial and some skeletal muscles being involved. On account of the pharyngeal palsy the child was artificially fed for 39 days, being fed solely by the rectum for 22 days, and for a further 17 days nasal feeding had to be used. The third point of special interest was the occurrence of very severe albuminuria accompanied by general œdema. The child's complete recovery, notwithstanding the severe infection, the dangerous paralysis and the kidney involvement was, as Dr. Sloan stated, matter for gratification. In closing, Dr. Sloan insisted, in opposition to the usual teaching, on the much greater frequency of paralysis after severe initial attacks in diphtheria than after mild. He also pointed out that severe paralysis is much commoner after severe attacks than after mild. In support of these contentions he showed two statistical tables which strongly bore out his remarks, one of these referring to a consecutive series of 166 cases under his own care in London and the other to a series of 495 cases reported by Dr. J. D. Rolleston of London.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on Oct. 30th, Mr. W. A. U. Thomson being in the chair.—Mr. V. Warren Low read a paper entitled "The Modern Treatment of Surgical Tuberculosis." Mr. Low began by pointing out that great advances in the treatment of surgical tuberculosis had come from the pathological side recently and outlined the main features of Wright's work on opsonins in their relation to the treatment of the disease. In this respect he proceeded. The terms "negative phase" and "positive phase" were applied by Wright respectively to the initial lowering and subsequent elevation of the opsonic index following on a dose of tuberculin. (Mr. Low here showed charts to illustrate his meaning.) The possibility of causing a cumulation in the direction of the negative phase doubtless accounted for the disappointing results which so often formerly followed the use of tuberculin when uncontrolled by the estimation of the opsonic index. Another

most important use of this power was to obtain information of the amount of auto-inoculation taking place from a tuberculous focus, often too small in the case of localised tubercle and in excess in systemic infections. In localised tuberculosis, therefore, therapeutic inoculation was indicated, whereas in systemic cases it might be contra-indicated and efforts should rather be made to limit the circulation through the diseased foci, the therapeutic value of rest being at once obvious and equally so the need of avoiding operation during the negative phase. Not only had they to raise the opsonic value of the circulating fluids but also to insure their ready access to the affected area; in fact, the guiding principle for their operative measures should be the removal of surrounding inert material so that the diseased parts might be flushed with healthy lymph, whether such obstruction be fluid free in the abdomen in a case of tuberculous peritonitis or the pus of a psoas abscess or the hard caseous material often met with in glands of the neck. After reviewing the surgical treatment of tuberculosis during the last 20 years Mr. Low said that the modern surgeon relied rather on the reaction of the organism for good results and his operations were directed to the removal of inert material in order to allow the free circulation in the diseased area of fluids of high bactericidal value. Above all, he must avoid sepsis, for the tissues being already the seat of microbic invasion had a less resistance than normal. Under the influence of sepsis the tuberculous process became more malignant locally and dissemination was markedly accelerated. Sinuses, therefore, were to be avoided. The risk from these caused by drainage-tubes could in most cases be obviated by using sterilised normal saline solution in the place of irritating chemicals when any fluid was required. Operations must be timed to correspond with a high opsonic index. Abscesses, psoas and others, were opened so far as practicable from the spot where they might be pointing, gently wiped out with sterile gauze, and the wound was then sewn up in layers; if the cavity refilled the old scar must be avoided at the second operation. In joint disease where operation was unavoidable arthrectomy had replaced excision and amputation was but rarely called for. An operation, however, was not always necessary to effect a sufficient flushing of a tuberculous focus. In earlier stages of the disease the result might be obtained by such means as fomentations, iodine, Scott's dressing, the Finsen light, and Bier's treatment of passive hyperæmia, due control being exercised by the opsonic index. Klapp's suction apparatus might also be mentioned. Mr. Low proceeded to point out the value of fresh air and sunshine in whatever locality as an adjuvant in the treatment of surgical tuberculosis and showed some photographs of light airy canvas living rooms, and suggested that such special hospitals for cases of surgical tuberculosis should be formed in the country as extension of the city hospitals, thereby freeing from 10 to 15 per cent. of their surgical beds. He concluded by showing a skiagram of a tuberculous femur in illustrating the value of x rays in the early diagnosis of surgical tuberculosis.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 1st, Mr. Richard Lake, the President, being in the chair.—Dr. E. Arthur Saunders showed a boy, aged six years, with Chronic Disseminated Myelitis. The patient was attacked with scarlet fever a year ago; this was followed a fortnight later by the onset of paraplegia with anæsthesia of the legs and lower part of the trunk. His condition had remained practically stationary since that time.—Dr. F. S. Palmer showed a boy, aged 15 years, with Primary Progressive Myopathy of the Facio-scapulo-humeral Type. There was no nervous disease in the family. He had five brothers and two sisters living and well. The patient was quite well until 18 months ago, when he first complained of fatigue and weakness in the arms and the shoulders; at the same time it was noticed that the facial muscles were weak. The wasting and weakness had been steadily progressive.—Mr. Blair showed: 1. A youth with Congenital Absence of the Iris. In the right eye the iris was entirely absent and the lens was deficient at its lower edge and had a small anterior pyramidal cataract. The left eye had practically the same defects. His father and sister had somewhat similar congenital anomalies of the iris. 2. A case of Misplaced Pupils.—Dr. Seymour Taylor showed a man, aged 34 years, with Perforation of the Aortic Valve. The patient had lead colic on two occasions and had a typical blue line on the gums. While lifting a heavy weight he experienced severe pain in the upper zone of the chest, a choking sensation in the throat, and faintness. There was a diastolic thrill all over the front of the chest and a loud diastolic musical murmur was heard all over the chest, back and front, also over the upper half of each humerus.—Mr. W. McAdam Eccles showed a man, aged 45 years, with Charcot's Disease of the left knee. He had had signs of locomotor ataxy for three years; the pupil reaction was only present on the left side. The joint became largely distended with fluid in three days and without pain. 15 ounces of fluid were aspirated from the joint and a plaster case applied. While this was on no re-collection of fluid took place but on its removal the joint became distended in the same time as before.—Mr. Aslett Baldwin showed: 1. A woman, aged 29 years. This was a case of Excision of the Rectum for Carcinoma by an abdomino-anal method. The patient was admitted into hospital with complete intestinal obstruction of ten days' duration. Colotomy was performed. Later the abdomen was reopened and the attachments of the rectum were divided as high as the sigmoid flexure. The anus was dilated and the bowel and growth were forced out through the anus forming an intussusception. This was cut off externally and the bowel was united by circular suture and returned. The sigmoid flexure was attached a short distance above the anus. The patient had perfect control and normal action of the bowels. 2. A man, with Lengthening of the Left Leg and extensive Nævus of the Left Half of the Body. A venous nævus occupied the left side of the trunk and most of the left thigh, leg, and foot. The left leg was two and a half inches longer than the right and the left foot was half an inch longer, but the left calf measured eleven and a half inches in circumference, whereas the right measured thirteen inches. Varicose veins were also present in the left leg. 3. A man, aged 30 years, with Carcinoma of the Right Breast. The patient noticed the lump about ten months ago, which had been ulcerated about a month. There were two secondary growths in the skin near the primary one and numerous hard enlarged glands in the axilla. A microscopical section of one of the secondary growths showed typical scirrhous carcinoma. 4. A girl, aged four years, with Tumour of the Scapula, &c. The enlargement of the right scapula was noticed two months ago. The lower end of the right fibula was markedly thickened and nodules could be felt on the metacarpal bones and phalanges of the right hand. There appeared to be no pain or tenderness.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 6th, when Dr. L. W. Marshall read his presidential address on "Children's Work in Medicine." After a brief historical survey he pointed out that children's ailments need be made no specialty in the "popular and evil sense of the word." The work did not deal with an organ but with the entire organism at its most interesting period of development. Arguing from this fact and the universal lament of the student that the medical schools did not provide at all adequately for his instruction in this topic, so that he was left to search for knowledge "on his own" after qualifying, Dr. Marshall urged strongly that attendance on the practice of a children's hospital should be compulsory for every student and that children's diseases should be taught in every medical school by someone who by his earnestness and enthusiasm was fitted for the task—not by one who was asked to sandwich it in between other subjects which were to him of more interest and with which he was more at home. The student should begin his clinical work in the children's ward, for there was no better training-ground for adult work, and the man who had children's work at his fingers' ends started with the best possible equipment for the difficulties of general medicine and general practice. It must not be assumed that children were miniature men and women; their ailments had been well called "the grammar of disease" and should be studied first, for child-life was exempt from none of the diseases of adult life, though it did modify them in proportion to the stage of development reached. To view life as one great entity of which the infant was the stepping-stone was to give to children's work new force, as well as more interest and much pleasure to the worker. The nutrition, feeding, and hygiene of child life were also very important with the object of avoiding disease and acquiring a sound constitution. Possessing no intuitive knowledge the human parent needed guidance as to the care of her offspring and such instruction ought to come from the general practitioner rather than lady visitors who obtained their knowledge only from pamphlets. Nursery hygiene did not begin and

end with feeding and those who had to teach others must themselves have some practical knowledge of the subject. If therefore medical men were to teach others they must first of all be instructed efficiently themselves. In all things they must seek to follow Nature rather than forestall her and education in the technical sense should not begin before the seventh year. The commoner neuroses of childhood were attributable more to errors in rearing than to heredity, and teething had primarily very little to do with convulsions. The malnutrition often spoken of contemptuously as "only rickets" was, directly and indirectly, responsible for more deaths than any other cause and hence should claim their serious attention. The widespread existence of this scourge might well be attributable in part to their own apathy and indifference in the study of infant life and its requirements.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—A meeting of the Northern and Midland division of this society was held at the Sunderland Borough Asylum, Ryhope, on Oct. 17th, Dr. James Middlemass being in the chair.—Dr. Middlemass related the cases of two brothers admitted to the Sunderland Asylum in February, 1906. The interest of the cases lay in the combination of unusual nervous symptoms with a gradually progressive dementia. The elder brother, aged 31 years, 13 years before had an accidental fall which gave him a great fright but produced no immediate physical symptoms. About two years later symptoms of difficulty in walking made their appearance and gradually became more pronounced. These symptoms consisted in marked incoördination of muscular movements, with a spastic condition of the muscles of the legs. These then appeared in the muscles concerned with speech, then in the arms, and, finally, in the head and neck. But at no time was there any nystagmus. The mental faculties underwent a gradual process of deterioration ending in profound dementia. He died in January, 1907. The younger brother, aged 27 years, first began to show the same symptoms seven years previously. He had no accident but he had been in the habit of sleeping in all weathers in the town park and had frequently been chilled and soaked. The symptoms in his case took the same line of progress and promise the same result. The muscles generally are in a spastic condition, there is marked incoördination on voluntary movement, the deep reflexes are much increased, and there is slight muscular weakness but no atrophy as yet. His speech is very poor and he is a facile, contented dement. These symptoms were demonstrated in the patient. The examination of the spinal cord of the elder brother made by Dr. E. Bramwell of Edinburgh showed the absence of disseminated sclerosis, to which disease the symptoms are most nearly related. They appear, on the whole, to belong to that group named by Westphal "pseudo-sclerosis."—Dr. Colin F. F. Macdowall (Newcastle) read a paper on Three Cases of Juvenile General Paralysis.—An informal discussion followed on Some of the Lessons of Experience.

Reviews and Notices of Books.

A System of Medicine by Eminent Authorities in Great Britain, the United States, and the Continent. Edited by WILLIAM OSLER, M.D. Oxon. and McGill, F.R.S., Regius Professor of Medicine in the University of Oxford, &c. Assisted by THOMAS MCCRAE, M.D., F.R.C.P. Lond., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore. Vol. II., Infectious Diseases. London: Henry Frowde and Hodder and Stoughton. 1907. Pp. 828. Price, in sets of seven vols., 24*s.* net each; single volumes 30*s.* net each.

THE second volume of Professor Osler's "System" is devoted to the infectious diseases. It opens with a general study of infection written by Dr. Ludvig Hektoen, in which an excellent account is given of the modes of action of pathogenic organisms and of the resistance offered to them by the body, including a discussion of recent work on opsonins, agglutinins, and similar substances. The assistant editor, Dr. McCrae, writes on Typhoid Fever, to which over 150 pages are devoted, the whole constituting a complete monograph on the disease. It is in all respects worthy of the great reputation which its author has already gained for himself and illustrates the special attention paid to this malady in the Johns Hopkins Hospital. Dr. McCrae also contributes chapters on Typhus and Relapsing Fevers. Small-pox is intrusted to Dr. William T. Councilman, whose researches on the causal organism of the disease are well known. Some good illustrations of the different stages of the disease in an unvaccinated person are given and may be commended to the attention of antivaccinationists. Vaccination itself is dealt with by Dr. George Dock. A valuable study of Scarlet Fever is furnished by Dr. John H. McCollom; we may note that the author is inclined to admit a much longer incubation period than is usually assigned to scarlet fever in medical text-books. He does not believe in the existence of a "fourth disease."

Dr. John Ruhräh writes on Measles, Whooping-cough, and Mumps; he states that desquamation occurs in nearly every case of the first-mentioned malady, a fact that is not always recognised. He also lays stress upon the serious nature of the affection as indicated by its alarming death-rate, as opposed to the popular notion that it is of trivial importance, and this is a lesson which we in this country are trying to bring before the public. Dr. McCollom writes on Diphtheria and commends intubation rather than tracheotomy for hospital patients. The subject of the prophylactic use of antitoxic serum is rather scantily treated, and the chapter on Influenza by Dr. Frederick T. Lord might also perhaps have gained by greater fulness. Dr. Thomas D. Coleman writes on Dengue and Dr. Henry Koplik on Epidemic Cerebro-spinal Meningitis. Posterior basic meningitis, which is also due to the meningococcus, is included in this article. Dr. James M. Anders writes on Erysipelas, for which he finds iron and quinine the most efficient remedies; he notes the disappointing results obtained from the use of Marmorek's serum.

Three chapters are devoted to Lobar Pneumonia; we are not sure of the advantage derived from division of a single subject into separate chapters, when the use of central headings in dark type throughout the work sufficiently breaks up the subject matter. The study is based on very full statistical material and is very complete. The authors, Dr. John H. Musser and Dr. George William Norris, approve of the use of alcohol in suitable cases; they also advise the use of plentiful draughts of water as a beverage, from 4 to 8 ounces every hour or two. A chapter on Toxæmia, Septicæmia, and Pyæmia by Dr. Richard M. Pearce deals with these conditions from the bacteriologist's point of view rather than from the surgeon's; the author includes among septicæmias all instances of organisms which multiply in the blood, and among toxæmias all bacterial poisonings, and the account necessarily overlaps other chapters to some extent and also presents the matters dealt with somewhat briefly. Rheumatic Fever is intrusted to Dr. F. J. Poynton who gives a very impartial account of the bacteriological investigation of the disease in which he has taken a leading part. Asiatic Cholera is described by Dr. W. P. Dunbar and Yellow Fever by Dr. James Carroll, whose name is well known in connexion with the work of the commission of investigation sent out from the United States during the occupation of Cuba. Dr. W. J. Calvert deals with Bubonic Plague and Dr. K. Shiga with Bacillary Dysentery, in which good results have been obtained from the use of a polyvalent serum. In the former article it seems a mistake to speak of Haffkine's prophylactic as a serum; in the latter there seems to be a misprint in the dose of castor oil employed, 15 cubic centimetres being equivalent to half an ounce, not to half a drachm, as stated. Misprints are, indeed, not infrequent throughout the book; among them we would fain include the use of "flagellæ" for

"flagella" by the assistant editor, though the error is common in medical writings.

The volume is similar in size to the first, and, we think, rather heavy for convenience of reading but this will not interfere with its use as a book of reference.

A Text-book of Diseases of Women. By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania. Second edition, rewritten and enlarged. With 700 illustrations, many of them in colours. London and Philadelphia: W. B. Saunders and Company. 1906. Pp. 741. Price 21s. net.

As only two years had elapsed since the appearance of the first edition of this work no great amount of alteration in the text has been necessary. This new edition, however, bears evidence of a careful revision and some 57 pages have been added, 47 new illustrations have been introduced, and 30 of the old illustrations have been replaced. The book is written on an anatomical basis, the diseases of the various regions being considered seriatim. This method is no doubt a good one but the order of classification of the different diseases requires care to make a book of this kind easy to refer to. We do not think that the arrangement adopted by Professor Hirst is in all respects a good one, as it is difficult to see on what principle he has proceeded. Thus in the section on the vulva we find carcinoma, sarcoma, and syphilis all described. In the chapter on the vagina the account of tuberculosis of that passage is followed by a description of acquired stenosis and atresia of the vagina, and this in its turn by injuries to the vagina and the pelvic floor. Then again, in the section on affections of the cervix we find a paragraph headed "Myomata of the Cervix," and under this are described mucous polypi of that region. We notice that Plate 8 is still wrongly described. These, no doubt, are trivial matters but in our opinion a proper classification and an orderly and intelligible arrangement of the subject matter of a text-book are of importance from the point of view of the student. We cannot think that the author can have had much experience of tents used under proper antiseptic conditions or he would not talk of their dangers, as when they are properly used there is no danger. No less than five and a half pages are devoted to coccygodynia and there is a plate showing some 23 specimens of the coccyx, we presume removed from patients. The author's experience of this condition must be very exceptional or else he removes this bone very frequently. It is interesting to find that Professor Hirst recommends the use of clamps in vaginal hysterectomy and also splitting up the uterus in this operation when undertaken for cancer of the cervix. We fail to see any good reason for this needless complication. No doubt splitting the uterus up is often essential in cases of old pelvic inflammation in which a vaginal hysterectomy is being carried out, for which Landau's method is especially useful, but in a case of carcinoma suitable for removal by the vaginal operation there can be little need for this procedure. The operation of panhysterectomy by the combined method is the one which the author prefers for the treatment of operable cases of cancer of the cervix. The advice to employ medical gymnastics and abdominal massage in the treatment of retroversion of the uterus is good and this plan should be adopted more often than it is, especially in cases following recent childbirth. The satisfactory results obtained by Professor Hirst in the treatment of prolapse of the uterus by plastic operations on the vagina combined with amputation of the cervix are very striking. The usual experience in this country certainly appears to be that a great many of these cases relapse. The section on the indications for a radical operation on fibromyomata is particularly good and contains an exceedingly good and judicious account of the conditions which justify operative interference for these tumours. In the treatment of tubal inflammation we are glad to see that the author lends the weight of his authority against the removal of a healthy uterus in these cases on the grounds that this organ is useless after removal of its appendages. With this doctrine we disagree utterly. We venture to think that the presence of the uterus is of the utmost importance to the retention of the functions of the pelvic floor and we are very glad to see so much stress laid on this point.

This edition maintains the high level of the first. It contains a great deal of good and sound teaching, while the illustrations, which are a very marked feature of the work, are really excellent.

An apology is due for the late appearance of this review, but the fact that the book had not been reviewed before was overlooked.

The Treatment of Disease: a Manual of Practical Medicine. By REYNOLD WEBB WILCOX, M.A., M.D., LL.D., Professor of Medicine at the New York Post-Graduate Medical School and Hospital. London: Rebman, Limited. 1907. Pp. 911. Price 24*s*.

THE title of this work is rather misleading, as therapeutical considerations do not hold such a prominent part in it as to justify the work being called "The Treatment of Disease." It may with justice, however, be termed a "manual of practical medicine" and is intended mainly for the use of practitioners. For the medical student in this country it will not be found suitable. The portions devoted to etiology and pathology are not given in sufficient detail and many of the drugs recommended for the treatment of disease are not to be found in our Pharmacopœia.

The work is one of unequal merit. Certain chapters are excellent and contain valuable information and useful advice. On the other hand, some are very sketchy and by no means fulfil modern requirements. It will be a surprise to many physicians that Dr. Wilcox strongly "deprecates the continued popularity of the cold bath treatment" in enteric fever. He advocates the employment of intestinal antiseptics, notably chlorine. He considers that there is nothing in medicine more striking than the clearing-up of the tongue, the improved mental condition, the lessened local disturbances, and the general betterment which chlorine brings about in enteric fever. He considers it especially effective in the more severe forms of the disease. Chlorine has been tried by physicians in this country with varying success. Dr. Wilcox recommends the use of compound solution of chlorine (U.S.P.) in doses of one drachm every three or four hours. This preparation has the following composition: potassium chlorate, five grammes; pure hydrochloric acid, 18 cubic centimetres; and water to 1000 cubic centimetres.

The clinical description of pulmonary tuberculosis is given rather briefly but in a clear manner. The treatment of the disease, however, is considered very inadequately and a practitioner who attempted to follow Dr. Wilcox's directions in conducting the "open-air" method would find himself much at fault. The all-important subject of graduated exercise is scarcely touched upon and the most recent experience has shown that unless the amount of exertion a patient undertakes is carefully regulated much harm may be done. On the other hand, a certain amount of actual "work" is probably one of the most valuable therapeutical means which we possess for suitable cases. The subject of acute infectious pneumonia is not satisfactorily described. The complications are dismissed in a few lines and three pages only are occupied in a discussion of the treatment of the malady. The section on primary or essential anæmia will be found to contain many useful hints and we especially commend Dr. Wilcox's remarks on the preparations of iron which should be employed. He quite rightly contends that the iron must be in definite chemical organic combination.

Inorganic salts have been shown to be unsatisfactory. The preparation must be able to resist the action of the free hydrochloric acid of the gastric juice without becoming decomposed with the formation of iron chloride. Further, iron should be given in such a form as not to interfere with digestion and must not be irritating or astringent. Dr. Wilcox suggests "iron vitellin" as a satisfactory preparation. One of the best sections in the book is that dealing with diseases of the heart and blood-vessels. This is admirably written and contains much information and practical suggestions. The observations on therapeutics are especially good. The treatment of valvular lesions is clearly described. The use and abuse of drugs are carefully considered and good directions are given in regard to exercise and diet. The section on diseases of the nervous system is also worthy of study. Another satisfactory feature of the work is the attention that is given to diseases peculiar to tropical climates.

The book is printed in good type which does not fatigue the eye and there is a full index which will be found valuable for purposes of reference.

Our Slaughter-house System. A Plea for Reform. By C. CASH, B.A. *The German Abattoir.* By HUGO HEISS. With numerous illustrations. London: George Bell and Sons. Pp. 212.

THOUGH this work professes to be "a plea" there is very little pleading in it. Better than arguments and dissertations we have before us a powerful array of facts which the reader can readily utilise and then do the pleading himself. First we find an account of some of the private slaughter-houses in England with photographic reproductions that are sufficiently eloquent in themselves. Then the report for the year 1902 of the medical officer of the city of Coventry is quoted, and here we are told that of the 50 private slaughter-houses in Coventry 40 were "very insanitary," eight were "insanitary," and only two are described as "sanitary." On the other hand, no town of the importance of Coventry would in Germany be permitted to have any private slaughter-houses whatsoever. Indeed, even small rural towns and villages combine so as to have a public abattoir between them. Thus, there are now some 900 public abattoirs in Germany and only about 50 in Great Britain. Moreover, the German abattoirs are paying concerns; their revenues help to reduce taxation. Not so in England. The law says: "Urban authorities in England and Wales may, if they think fit, provide slaughter-houses," but no power is given to close private slaughter-houses. Mr. Cash relates that he addressed a series of questions to the managers of all the English public abattoirs and received 41 replies. In 17 cases the receipts covered working expenses, interest on capital, and provided a sinking fund. In five other cases the loss was insignificant, under £40 per annum. Where the abattoirs did not pay this was due to the fact that the private slaughter-houses had not been abolished.

The dangerous condition of affairs prevalent in England with regard to the provision of meat cannot be denounced too often or with too much energy. This is brought home in the first half of the book, written by Mr. Cash. To those, however, who, like ourselves, are already and painfully familiar with these facts the second half of the volume will be more useful. This consists of Mr. Heiss's description of German abattoirs and the laws affecting the same. Such information provides the basis for the constructive policy much needed in Great Britain. In this respect it is encouraging to note that the German example clearly proves that the financial difficulty need not stand in the way. Of course nothing is harder to attack in England than what are called vested interests, even if such interests are invested in disease-producing nuisances. The same tenderness is not displayed on the continent, even by very autocratic governments. However, the German Government did allow that butchers might claim compensation when their private slaughter-houses were closed by law. On the other hand, care was taken that an impartial committee of investigation should be appointed and that no compensation should be given unless there really was a loss. Now it is obvious that butchers do not lose by the establishment of a public abattoir. If there is a loss it is slight and temporary and in the course of time will be more than compensated by the advantages likely to accrue. These advantages are very considerable if the abattoir provides more extensive and better means of utilising the bye-products. Therefore in practice, while admitting the principle of compensation, the sums actually given were so small that they did not constitute a serious obstacle to the abolition of the private slaughter-houses. Of course, heavy claims were sometimes made. For instance, Mr. Heiss relates that the butchers at Görlitz claimed compensation to the amount of £3367 and were awarded £459; at Gratz they wanted £1500 and got £160; and at Kiel £12,500 but only received £950. On an average it seems that the butchers got about a tenth of the amount which they claimed. Yet in some places they seemed to have made more correct estimates. Thus, at Stendal they asked for £1690 and received not a tenth but nearly one-half of the sum—namely, £750.

The work before us also deals with humane slaughtering and of course with the details of construction in the building of public abattoirs. In this latter respect the photographic reproductions showing what has actually been done will be of great use. The joint authors have rendered practical service in placing so much information in a small compass at the disposal of all who desire that only wholesome meat coming from healthy animals shall be sold for human consumption.

LIBRARY TABLE.

Précis de Technique Orthopédique. (*Technical Orthopædics.*) By Dr. P. REDARD. Paris: F. R. de Rudeval. Pp. 591. Price 12 francs.—This clear and well-illustrated little manual has been written with the simple intent of supplying medical readers with full information on the technique of orthopædics—that is to say, the title properly describes the contents. The operative procedures are detailed and all the recognised forms of apparatus, bandages, splints, extension instruments, jointed supports, and so on, are accurately described and clearly illustrated; and the result is a valuable manual, which can be read as a supplement to more ambitious pathological works. Pathological works, by the way, only too frequently do not give proper attention to telling fully the details of treatment, presumably because it is felt that such things can only be learned by the bedside. We are inclined to think that this is a mistake, for though book learning can never take the place of actual experience instructions found in a book will often remind a man that his practical knowledge is rusty. We think that Dr. Redard has produced a useful treatise.

Health and Habits. Anon. With an introduction by Sir CHRISTOPHER NIXON. Dublin: Browne and Nolan, Limited. 1907. Pp. 157. Price 1*s.* 6*d.*—This little manual on hygiene is intended for schools and the object has been to include in a course of easy lessons all the essentials of the subject and to convey the information in an interesting and simple manner so as to be within the comprehension of junior classes as well as of those more advanced. While avoiding physiological details which would only be puzzling and wearying to such an audience, the writer has set forth clearly the broad principles of sanitation and the obvious ways in which much disease can be avoided, while laying due stress on the relation between good health and good habits. We agree with Sir Christopher Nixon's words in the introduction that instruction in the laws of public health should be given at an early period of life and in

primary schools, and on the whole the writer has been able to provide the necessary information in such a form that children can follow it with the usual exposition of a teacher.

Potato Cookery. By ALFRED SUZANNE and C. HERMAN SENN. With an Introduction by J. C. BUCKMASTER. London: The Food and Cookery Publishing Agency. 1907. Pp. 124. Price 1*s.* 6*d.* net.—The preface of this useful little book repeats the old dictum that "the woman who can cook a potato to perfection can cook anything," and the contents give 300 different ways of sending potatoes to the table in wholesome and appetising form. Of course, in some of the recipes the potato is only the staple ingredient of an elegant little *entrée*, much of the special character of the *plat* being due to the egg, the cheese, the mushroom, or the ham which is added, but in all the recipes the treatment of the potato is the crux before the cook, and the basis of the dish is the cheap, plentiful, and nutritious solanum. 200 of the recipes owe authorship to Mr. Herman Senn, who has for 14 years been consulting *chef* to the National Training School for Cookery and is already well known as a writer on gastronomy; the remaining 100 have been supplied by Mr. Alfred Suzanne, who was formerly *chef* to a Duke of Bedford.

Practical Fever Nursing. By EDWARD C. REGISTER, M.D. London and Philadelphia: W. B. Saunders Company. Pp. 352. Price 12*s.* net.—There must always be a difficulty in deciding how much information is due to a nurse, where the point may come at which too great a knowledge of theory or detail will hamper her, and what is the level of learning to which she must attain if she is not to be inefficient. Dr. Register has prepared this volume with the object of presenting to nurses a working text-book which will completely cover the field of fever nursing and in every word that he has written he must have felt the difficulties which we have indicated. We agree with him that a nurse before she can intelligently care for a fever patient must have some knowledge of the disease and its medical treatment, but we do not think it necessary that she know the cause and signification of all the symptoms that may arise; and as for familiarity with the pathological processes going on within the body of the febrile patient—well, knowledge of these would constitute a very advanced pathologist. We doubt whether the practical duties of the nurse in fever cases will become easier for her to discharge because she has learned the etiology of pulmonary tuberculosis and the theory of the causation of yellow fever. Having said this much let us add that the valuable information which Dr. Register decides should be given is put in the simplest and clearest form, well expressed, and easy to be assimilated, so that undoubtedly a really intelligent nurse on reading the book could hardly fail to take a deeper interest in her patients. The first part of the book which deals with general considerations, the practical duties of the nurse in fever cases, the preparation of the more common articles of diet to be used in fever cases, together with information about her taking the pulse and temperature, and so on, is excellently planned and put together; it is the second part of the book where the special pathology of the various fevers is discussed which strikes us, in spite of Dr. Register's resolute intent to be simple, as being a little out of place.

The Reduction of Cancer. By the Hon. ROLLO RUSSELL. London: Longmans, Green, and Co. 1907. Pp. 62. Price 1*s.* 6*d.* net.—Mr. Rollo Russell has made excursions into semi-medical literature before and in a work upon diet has written a good deal that was wise at considerable length. This time he tackles a special problem in medicine from the lay point of view and we are glad that he has been brief, for truth to say, he does not tell the world at large much that has not been said over and over again, while some of these reiterated statements are not so undeniable as he seems to think. He produces evidence that the persistent use by a community of beer, tea, coffee, and flesh is accompanied by a high cancer rate and that the condition of exemption is generally accompanied with plain living or actual vegetarianism. He arrives at this conclusion from information gathered in many localities which he may not have had any opportunity of testing, while certain of his remarks upon, for example, the immunity of the poorer classes from cancer, the frequency of operations for tumour among women of middle age, and the prowess of abstainers from flesh in athletic fields, require qualification. A great many writers, medical and lay, are quoted but the references to the passages cited are frequently not given, which spoils the value of their opinions, and some of them cannot possibly be considered authorities. Mr. Russell has written a little tract to prove that the luxuries of modern life produce and foster cancer. Some of what he says is accepted by everyone, but the nature and spread of cancer are not so comprehensible as he thinks.

JOURNALS AND MAGAZINES.

Ophthalmology. Vol. IV., No. 1. October, 1907. Edited by H. V. Würdemann, M.D., of Milwaukee, U.S.A. Editorial and publishing offices: Grand Avenue, Milwaukee, Wisconsin, U.S.A. Price 6*s.*—The original articles in this number of *Ophthalmology* are: 1. Ophthalmoscopic Appearances in Chronic Cyanotic Polycythæmia, by Edward Jackson, M.D., of Denver. 2. The Killian Frontal Sinus Operation; its Relations to Ophthalmology: Remarks on the Use of the X Ray in Sinus Disease (illustrated), by Henry Glover Langworthy, M.D., of Dubuque, Iowa. 3. Pulsating Exophthalmos treated by Excision of a Dilated Orbital Vein (illustrated), by H. Gifford, M.D., of Omaha, Nebraska. 4. Keratitis Disciformis (illustrated), by W. Zertmayer, M.D., of Philadelphia. 5. Posterior Sclerotomy as a Preliminary to Iridectomy in Secondary Glaucoma, by C. Zimmermann, M.D., of Milwaukee. 6. The Fogging Method applied to the Treatment of Eye-strain, by Percy Fridenberg, M.D., of New York City. 7. Dialogues of an Eye Clinic, by Plato Minor, M.D. In addition the number contains abstracts from foreign journals and reviews.

The Dublin Medical Journal.—The October number, which contains an appendix giving the regulations of the Irish schools of medicine, opens with the first instalment of a paper on Sleep, written by Dr. Ralph S. Oldham. The phenomena of dreaming and somnambulism are discussed and evidence is quoted as to the existence of cerebral anæmia during sleep. Dr. John Marshall Day writes on the relations of diphtheria to scarlet fever and measles, advocating the employment of prophylactic doses of antitoxin in cases of the first named, and Dr. William Pearson upholds a neurogenic theory of the causation of heart-block. An interesting note by Dr. Friedrich Freytag of Hanover suggests that the eosinophile granulations of the leucocytes are the remains of ingested erythrocytes.

The Birmingham Medical Review.—The condition variously known as Vaquez's or Osler's disease and splenomegalic polycythæmia has now taken its place as a definite morbid condition. In the September number of this journal is contained the first part of a paper dealing with this affection, written by Dr. Leonard G. J. Mackey, in which an account of a new case is given and an analysis of 46 previously recorded instances. The patient whose case is here set forth was a man, aged 51 years, whose erythrocytes varied between 7,120,000 and 9 600,000 per cubic millimetre, the hæmoglobin reaching 175 per cent. and the specific gravity of the blood 1080. Treatment had no effect on the polycythæmia. Dr. Charles Greene Cumston of Boston writes on Tuberculosis of the Cæcum and records two cases of the

hypertrophic form which is often mistaken for cancer; both patients were women, aged 27 years, and both made good recoveries after resection of the gut.

The Middlesex Hospital Journal.—The students of the Middlesex Hospital had good fare provided for them at the opening of the current medical session. Mr. A. G. R. Foulerton's interesting address on the Value of Preventive Medicine as a Factor in the Welfare of the State and Mr. Morris's speech of advice to the "newly joined" are both published in the October number of this magazine and are both well worth reading. There is also a lecture by Dr. William Wright on Prehistoric and Early Historic Inhabitants of England which contains much profound anthropological learning.

St. Thomas's Hospital Gazette.—The most interesting contribution to the October issue of this journal is perhaps the account of the History and Present State of the Concentration Scheme of the London University given by Mr. F. G. Parsons. Different schools take different views on this question, and that of St. Thomas's is in favour of the scheme. Of scientific value is the record of two cases of Congenital Diverticulum of the Cystic Duct, a rare condition, which in one instance simulated hydronephrosis. A late patient in the hospital describes at considerable length his experiences in the wards.

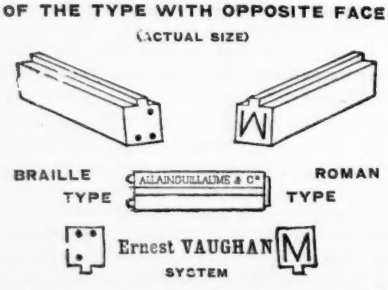
The Midland Medical Journal.—Of the contents of the October number of this paper the greater part is of local interest alone. Original contributions are represented by the continuation of an article by Dr. Charles A. Leedham-Green on the Determination of the Origin of Pus in Urine; the use of injections of carmin blue and of catheterisation of the ureters is discussed; for the latter procedure the use of a cystoscope fitted with a fine flexible catheter is advised.

New Inventions.

A PORTABLE PRINTING PRESS FOR THE BLIND.

M. Ernest Vaughan, superintendent of the Quinze-Vingts Blind Asylum in Paris, has devised an ingenious and simple apparatus by which letter-writing is made easy for the blind. The invention, in fact, does more than this, for it serves the double purpose that, on the one hand, the blind can by it express their ideas on paper in ordinary printed characters, while on the other hand persons who can see but have no knowledge of the various alphabets for the blind can write letters to blind correspondents in the raised Braille character. Moveable type of the familiar square shape is employed, the

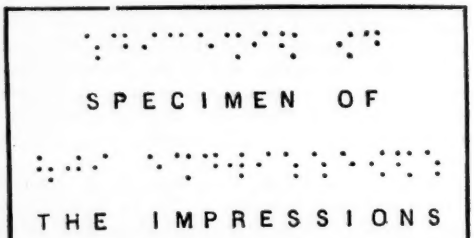
FIG. 1.



difference between this and ordinary printing type being that each character gives an impression with each end—namely, an ordinary Roman capital letter printed in ink with one end and a raised Braille letter with the other end. Fig. 1 shows the general appearance of one of the types as seen from different points of view. Fig. 2 shows the printed result; of course, in practical work the Braille characters do not produce black dots on the paper but elevations which are read by the blind with their fingers.

In order that the blind may write letters or other communications to be read by any ordinary individual the types (about 200 characters) are arranged compactly in a wooden frame in the upright position with the Braille ends uppermost and the Roman ends undermost resting on an ink-pad. On the paper there is placed another similar wooden frame perforated with rows of holes, each of which fits the type. The blind writer forms words letter by letter in this frame, lifting the characters one by one from the collection in the other frame, which corresponds roughly to a compositor's case. As the Roman letter is already inked, the mere placing of it in the writing frame prints each letter on the paper. In order that a person who sees may write to a blind person the stock of type

FIG. 2.



is arranged with the Roman end uppermost and no ink pad is required. The writing frame is the same in both cases, but the writing itself must now proceed from right to left because it is the under-side of the paper which is read. The words are formed letter by letter as before, and by placing each type with its Roman end uppermost in a perforation of the writing frame a Braille character is impressed on the paper. The surface which may be covered with writing measures about seven inches by five inches. One advantage of the system is that in conducting correspondence a blind person requires no secretary or assistant, so that publicity is avoided. No special training or dexterity is required for the process, which is at once simple, easy, and effective. The above is a general description of it, but in practice several alternatives are open to the writer chiefly in regard to manifolding and the making of copies with an indiarubber-covered roller. The price is 18*s.* 3*d.* free by parcel post in the United Kingdom, and the agent for Great Britain is Mr. Ernest E. Portier, 17, Green-street, Leicester-square, London, W.C.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—A quarterly meeting of the Royal College of Physicians of Edinburgh was held on Nov. 5th, Dr. C. E. Underhill, the President, being in the chair. The following Members were admitted by ballot to the Fellowship of the College:—Frederick Norton Menzies, M.D. Edin., M.R.C.P. Edin., London; Theodore Charles Mackenzie, M.B. Edin., M.R.C.P. Edin., Aberdeen; and George Douglas McRae, M.B., C.M. Edin., M.R.C.P. Edin, Edinburgh. James Hunter Harvey Pirie, M.B., Ch.B. Edin., Edinburgh, was admitted to the Membership after examination. The registrar reported that since the last quarterly meeting of the College 50 persons had obtained the Licence of the College by examination. The secretary laid on the table the annual statement by the governing board of the School of Medicine of the Royal Colleges in terms of the constitution. The report indicated that the number of classes during the winter session 1906–07 was 39, and during the summer session 1907, 43, and that the number of students during the winter session was 1048 and during the summer session 961, both so far as could be ascertained, as certain lecturers had not made returns. The Hill Pattison Struthers Bursary in anatomy and physiology, which is in the gift of the College, was awarded after examination to Mr. John William Hitchcock. The Wood Bursary, of the value of £60 per annum and tenable for three years, which is in the gift of the College, was awarded after examination in Latin, Greek, mathematics, and English, to Mr. George Baikie Shepherd.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 16, 1907.

The Election to the Senate of the University of London.

WE published last week several letters bearing upon the election of a member for the Senate of the University of London to take the place of Dr. LAURISTON E. SHAW, who has retired. The letters showed considerable diversity of opinion even on matters of fact among persons who are presumably acquainted with all the details of the divisions of opinion now prevalent among members of the Medical Faculty of the University, and we were not surprised to receive the vigorous communications upon the points at issue which we publish to-day. The letters, however, are not explanatory of much and, as a whole, not particularly conciliatory in tone; every letter is intended simply to enforce the position of the opinion which the writer represents, and the electorate is not likely to be swayed in its votes by perusal of them to the extent that it would have been had a wider debate taken place upon acknowledged differences.

There are three candidates in the field for the vacant seat on the Senate—viz.: Professor E. H. STARLING, Dr. NORMAN MOORE, and Mr. F. C. WALLIS—and their addresses to the constituency are published this week in our columns as well as the further correspondence bearing upon the matter. The election is of more than ordinary interest to the medical profession because it may afford insight into the views of a large number of the Faculty of Medicine as to the part which is to be played by the faculty in the general education of the medical student of London. As is well known, a large sum of money has been subscribed for the foundation of an institute at South Kensington to form the head-quarters of an amalgamation for the preliminary studies of the medical curriculum. The advisability of such a scheme of concentration was recognised by the Faculty of Medicine four years ago, and in January, 1904,[1] a letter was sent to Lord ROSEBERY, as Chancellor of the University of London, signed by nine representatives of the great metropolitan hospitals, saying that the proposal by the University (which had its origin in the recommendations of a Royal Commission) to teach the preliminary scientific subjects of the medical curriculum in one or more centres was one of urgent importance and should be adopted. The only two hospitals possessing medical schools whose representatives did not sign this letter were University College Hospital and King's College Hospital and their position towards the University was different. We welcomed this unanimous attitude of the London hospitals in favour of concentration of education (for the colleges proper of the University were sure to acquiesce in the scheme) as a practical step towards the securing for the London medical student of a degree upon reasonable terms—that is to say, the chances of the student graduating would be increased not by a lowering of the standards but by an improvement in the machinery for his instruction. Our view was that the faculty was in no sense committed to the opinion that such an institute should take the place of all the medical schools in London, for we always held that, if only for geographical reasons, there must be two, perhaps three, other centres, while we felt from the beginning the opposition that would be raised in certain of the existing medical schools at any suggestion that their functions should be abridged. But although a complete scheme of amalgamation between the medical schools of the metropolis did not seem feasible we welcomed the establishment of a centre in South Kensington that would lighten the burdens of preliminary medical education for those schools which desired to take advantage of the scheme. It was therefore with considerable disappointment that we learned that a change of opinion had begun to manifest itself among the members of the Faculty of Medicine, the outcome of which was the rejection at the beginning of this year of Dr. J. KINGSTON FOWLER and Dr. J. ROSE BRADFORD as members of the Senate and the election of Dr. LEONARD E. HILL and Dr. H. A. CALEY to represent the opposite policy—the policy of doing without an institute at South Kensington for the preliminary medical sciences.

The question dividing the candidates for the vacant seat on the Senate is the same now, and London medical students will watch with interest the result of the election which will take place next week. Professor STARLING'S views of the duties and functions of a university and of the responsibilities of the University of London towards the mass of the medical students of London commend themselves to us. We sincerely trust that he will obtain the seat which he seeks, for he represents the interests in the long run of those students who feel that the legitimate end to a medical curriculum followed in London is the medical degree of the University of London. Dr. MOORE and Mr. WALLIS support concentration of medical studies to this extent, that they both assert that the creation of an institution for research purposes at South Kensington would be valuable to medical study. All research is of value in medicine, but we do not see why research work should be pointedly divorced from the hospitals and carried to South Kensington. We much prefer that medical research work should remain so far as possible in touch with clinical work, and the whole direction of modern pathology increases the need for such union. There is no need for pure anatomy, physiology, and biology to be taught in proximity with the wards of a hospital, and efficiency and economy point, in our opinion, to the institution at South Kensington of a centre for the preliminary studies of medicine, though research work would rightly be prosecuted there also under Dr. A. D. WALLER'S able supervision. The foundation of a centre at South Kensington would be of great value to a large mass of medical students, would not, so far as we can see, damage those schools which did not desire to enter into the scheme, and would be the beginning of a movement for bringing the University of

[1] THE LANCET, Jan. 23rd, 1904, p. 249.

London into touch with medicine in a valuable manner. The question of the position of the University towards those who have already subscribed for the erection and maintenance of a central institute at South Kensington, in case the money is not employed to provide instruction in the preliminary medical sciences, we are not prepared to argue. It is one of conscience and one of law; decision upon the moral duty will follow presumably when the legal position has been made clear.

The General and Local Infectivity of Cancer.

TWO papers of importance on the subject of cancer have appeared in recent numbers of THE LANCET and we think it well to draw attention to them, for every new fact, every fresh appreciation of a fact, connected with cancer is a step towards the full understanding of malignant disease and therefore a step towards the subjection of this most resistant malady. The first of the two papers is by Professor E. GOLDMANN of Freiburg; it deals with the manner of growth of malignant disease, especially with reference to the vascular system.[1] When a malign growth, whether a carcinoma or a sarcoma, invades the tissues the blood-vessels of the part enlarge and the questions arise: Is this overgrowth of the vessels merely for the purpose of favouring the nutrition of the new growth? for, if so, the body is indeed doing itself an ill-service if it thus assists its enemy; or, Is this vascular hypertrophy an attempt on the part of the body to protect itself against its invaders? The evidence is by no means conclusive but it points steadily in one direction. In the veins in health the vasa vasorum penetrate deeply, reaching even to the neighbourhood of the intima, while in arteries the vasa vasorum rarely proceed further than the outer coat. When a malignant growth attacks a blood-vessel the depth to which the tumour cells proceed corresponds closely to the depth of the vasa vasorum and therefore we are justified in thinking that the tumour cells have attacked the blood-vessel by the channel of the vasa vasorum. When pathological conditions arise in an artery its vessels permeate the whole thickness of the arterial wall. This vascular degeneration is almost certainly a predisposing factor in the dissemination of the malign growth but it must not be confused with the new formation of vessels which occurs in new growths, for in every growing tumour, whether carcinoma or sarcoma, there is an extensive formation of new vessels; this is most apparent in the zone of proliferation which in infiltrating tumours corresponds to their periphery. As the malignant growth increases in size its centre tends to necrose and the new blood-vessels are seen only at the margin. This formation of new vessels in and around a tumour is best seen in vascular organs such as the breast; the tumour appears to irritate the blood-vessels and this irritation is most noticeable in the vessels facing the growing tumour and it can be seen easily in regions to which the tumour has not yet advanced. The affected vessel curves itself into spirals and sends forth numerous capillary offshoots towards the invading growths. The impetus which gives rise to the proliferation of blood-vessels comes from the invading cell but the new formation of blood-vessels is dependent upon the general powers of the individual to react as well as upon the physiological condition of the blood-supply of the invaded tissues. Professor GOLDMANN looks upon this new formation of vessels as a standard by which may be tested the body's power of reacting against malignant tumours. We may regard the increase of vasa vasorum in the walls of the blood-vessels as an attempt to guard the vessels against changes from within or without, even though these new vasa vasorum may form channels along which cancer cells may pass. The newly formed vessels in the new growth are the result of an attempt to combat the invading cells, even though the growth may at times spread by these very vessels. The body has powers of fighting cancer and at times it may succeed in vanquishing the invader. The necrosis which so often occurs in the centre of a cancer is the result of a fight between the invading cells and the tissues of the body. Many cases have been recorded in which tumours certainly cancerous have disappeared or in which the growth has been retarded, sometimes spontaneously and sometimes after the employment of various agents. In these cases we must look upon the victory as the result of the employment of the defensive powers of the body and the increased vascularity enables more of the defensive substances to be brought to bear on the part. We know at present nothing as to what these defensive substances are or where they are manufactured, but the body's first line of defence is established on the boundary of the invading growth and this may explain cases where the removal of a slow growth may be followed rapidly by a virulent recurrence. In such a case it may well be that the surgeon may have destroyed the barrier of defence which the body had carefully raised during the long period of the tumour's existence. The resemblance between these defensive processes against malignant growth and those in infectious disease is very striking and it is hardly too much to hope that the near future may give us artificial aids in fighting the invaders, such as we possess already against several infectious diseases. Professor GOLDMANN promises us at some future time an account of his researches into the causes of retarded metastases and we look forward with pleasure to the fulfilment of his promise.

The other paper to which we alluded is equally important but deals with quite another aspect of malignant disease.[2] Mr. CHARLES RYALL draws attention to some facts in connexion with recurrence of carcinoma after operations which hitherto have not received the attention which is their due. When recurrence occurs beyond the area of the operation the surgeon is justified in thinking that the operation was probably too restricted and that a wider removal would have prevented the recurrence; or where the recurrence appears in a distant organ he is justified in thinking that the metastatic growth had established itself before the date at which the primary growth was removed. If, however, a recurrence occurs in the margins of the wound, in the suture holes or elsewhere in the area of the operation, we are justified in thinking that the recurrence is due to an infection of the wound by some cancer cells. This is the thesis which Mr. RYALL wishes to prove. The possibility of such an

[1] THE LANCET, Nov. 2nd, 1907, p. 1236.

[2] THE LANCET, Nov. 9th, 1907, p. 1311.

infection has long been recognised. We know that implantation of a portion of a carcinoma may give rise to another mass of new growth in the same person and it is certain that an infection of the wound is possible. Only too often has the surgeon incised with a scalpel a doubtful mass in the breast and with the same scalpel he has proceeded to remove the whole breast. We cannot doubt that by thus acting infection may have occurred and recurrence may have been assured. Mr. RYALL quotes many cases to prove his point. In one case only one of the holes made by a needle at the operation has been the site of the recurrence; in another, in order to remove affected glands in the supraclavicular fossa the clavicle was divided, the wound healed, but the clavicle became the site of a recurrence, the bone having been doubtlessly infected at the site of its division. In a third case the whole chest wall became involved in a cancer "en cuirasse" within two months of the operation for removal of a small tumour of the breast; in this case the same scalpel was used for incising the growth and excising the breast. In another case an extensive and rapidly fatal infection of the neck followed the rupture during removal of an epitheliomatous gland. In a case of carcinoma of the rectum after excision had been performed diffuse malignant disease followed. Such cases as those we have quoted must be known to most surgeons and the great risk of infection cannot be denied. The surgeon should take elaborate precautions to prevent even the smallest chance of such an infection. If possible a doubtful tumour should not be cut into and excised at the same operation. The incision wound should be hermetically sealed, or even healed, before the healthy tissues surrounding the tumour are incised. If, however, it is absolutely necessary to incise and to remove a malignant growth on the same day the most elaborate precautions should be taken that no infection of the excision occurs. The skin must be freshly prepared, the surgeon's and his assistants' hands must be sterilised afresh, and every instrument, including the needles, must be boiled once more. The sponges, the lotions, and the sutures must all be new. Many surgeons have recognised this danger and have taken pains to guard against it; but the magnitude of the risk is even now not fully recognised by all and Mr. RYALL'S paper is therefore a valuable contribution to the treatment of cancer.

Dakhyl v. Labouchere.

THE case of DAKHYL *v.* LABOUCHERE, an action for alleged libel, which occupied the King's Bench Division of the High Court of Justice for a period of five days, had many points of interest for the medical profession. The plaintiff is of Syrian nationality, possessing a medical degree obtained in 1899 in Paris, where, as soon as he had obtained it, he commenced practice as an aural specialist. According to his evidence, he was so successful as to make £2000 in his first year of practice (including £1000 from a single grateful patient) and 35,000 francs (say £1400) in his second year, during which no specially bountiful person appears to have been forthcoming. Notwithstanding this prosperity he was induced to come to London, on June 24th, 1901, as "physician" to the "Drouet Institute," where his remuneration as "physician" was the modest sum of £32 per month for attending on the premises to conduct treatment by correspondence, with a percentage of undeclared amount upon any fees of 5*s.* each which were paid for consultations by patients who personally attended. In the interest of his employers, whose profits appear to have been made upon drugs and appliances, Dr. DAKHYL was bound to maintain the possibility not only of forming a correct diagnosis of the nature and cause of deafness by the perusal of the answers sent by deaf persons to a string of questions, but also the possibility of treating it successfully by written directions concerning the use of a variety of plasters, powders, and appliances which were sent out by the "institute" and charged for at the highest prices which dupes could be induced to pay. At the same time it was necessary to admit that there were certain advantages attendant upon a personal interview, which was more remunerative to Dr. DAKHYL than correspondence, and the difficulty of reconciling the two positions was a stumbling-block in the way of the plaintiff. It was obligatory upon the servant of the "institute" to represent the merits of the two systems as being nearly alike, with only a slight preponderance in favour of an interview. The efforts of the plaintiff's counsel were consequently directed to show that respectable practitioners asked questions of their patients and derived guidance from the replies; while counsel for the defence put forward the obvious fact that any guidance thus obtained does not extend farther than to indicate the lines on which direct examination should be commenced. Mr. LABOUCHERE, who was defendant in the case in his capacity of proprietor of *Truth*, has often rendered good service to the public by the warnings given in that paper against quacks and impostors of many kinds and has been called upon to defend many actions which such persons have brought. The case under discussion differs widely from most of its kind, in that the plaintiff, although not on the Medical Register and not amenable to the jurisdiction of the General Medical Council, is really possessed of a medical qualification, so that the description of him as a "quack of the rankest species" appeared on the face of things to be a libel. Fortunately, the meaning of the word quack is not very well established, and counsel for the defence were able to convince the jury that Dr. DAKHYL'S claim to be able to form diagnoses and to conduct treatment on no better grounds than those furnished by written replies to questions was essentially baseless and sufficient to justify the terms in which he was described. It was shown that the plaintiff had severed his connexion with the Drouet Institute before the alleged libel was published, but his reason for the severance was admitted by himself to be the dissatisfaction which a change of income from £2000 or even £1400 to about £400 a year might be expected to produce even in the best balanced mind; and it seems hardly to have been disputed that the principles and methods of the "institute" had been carried by him into the private practice which he conducted after depriving the "institute" of his services. It is a matter for deep regret that a qualified medical practitioner of whatever nationality should have adopted the line of conduct to which Dr. DAKHYL was compelled under cross-examination to confess, but the blot upon the profession is too insignificant to have any appreciable

effect upon the estimation in which it is held; and the fact that the jury, "after a short retirement," gave a verdict for the defendant may be taken as a fair indication of the effect which the evidence of the plaintiff produced upon them and the public. The back waters of science are the natural lurking-places of imposture, and the extent to which the deaf are still appealed to by quacks of every description is no doubt a consequence, and perhaps not an unnatural consequence, of the slender degree of attention which until quite recently was paid to scientific otology.

The Perils of Football.

THE accidents that have occurred already at football in the early stage of the season of the winter game seem to us to be unusually numerous. We have made no attempt to keep a record of fatalities or casualties and speak only from chance inspection of the newspapers, so that we are not prepared to say that as a matter of fact more accidents of football have been reported than have usually occurred by this time in November; but no one will deny that a formidable list might be compiled. As is usually the case, the bulk of these accidents have taken place in unimportant matches, but some of them have been the outcome of what the sporting press would term first-class contests, where the skill and experience of the players might be supposed at least to counterbalance the extra risk due to the great pace of the game. It is necessary that football authorities should consider the matter, and we are sure that the public endorses this opinion.

Over 20 years ago we thought the perils of football so urgent from a medical point of view that we discussed the subject in our columns, and in 1894 the question of the dangers incidental to the game was debated at some length in an article written by a member of our staff, himself a prominent player, with the coöperation of the two gentlemen who seemed at that time to enjoy the greatest public reputation as respectively half-back at the Rugby game and half-back at the Association game. For the purposes of that article we made a summary of the casualties which had occurred during the season 1893–94 and which had come to our knowledge through a newspaper agency. Up to the middle of March 61 serious accidents and ten deaths were found to have resulted from football, and we considered that in spite of the enormous number of players engaged the list was a larger one than it should have been. Perusal of the newspapers during the last few weeks leads us to form the same opinion to-day. Since the game recommenced it appears that football has been responsible, directly and indirectly, for the deaths of six players; injuries of a more or less serious nature to a large number have been reported, but we have made no attempt to compile an exhaustive list or to obtain the material from which to do so. The *Dundee Courier* of a recent date states that there have been no fewer than 60 persons disabled at Association football already, the majority of whom have been badly injured; the coincidence of this figure with the total of all accidents reported to us by a newspaper agency during a whole season 14 years ago is significant. At the Rugby Union game the injuries which have been brought to our attention have occurred more among those engaged in important matches, while none of them appears to have been of a particularly grave character. But everything seems to show that the degree of danger incurred by players is greater in the dribbling than in the carrying game—a conclusion which was drawn in the article referred to in THE LANCET of March 24th, 1894. As to the comparative frequency of accidents, however, it is very difficult to say anything definite, seeing that matches under Association rules are far more numerous than those which take place according to the rules of the Rugby Union, while many of the players must be the reverse of skilful. Some point to the fact that Association football is now played mainly by professionals as furnishing the reason for the undue number of accidents occurring in this form of the game. The players, they say, are chiefly influenced by the fact that winning signifies to them not only fame but money. It seems true that if a club cannot uphold its reputation it loses its grip upon the public attention and ceases to be a money-making concern. Thus the premium placed upon winning is very great and the temptation becomes proportionately urgent among the players to resort to measures which do not come within the range of legitimate sport. Football played in such a spirit might easily be detrimental to life and limb, but we are not prepared to take this view because 14 years ago when we went into exactly this question the amateurs were still powerful at Association football and the accidents were then unduly numerous as compared with the accidents at Rugby Union games. Yet times have changed with the winter sport which is now frankly regarded as a business; indeed, it is said that professional players might come under the provisions of the Workmen's Compensation Act when injured in the services of their clubs, and it is further understood that in order to decide the point the Association has agreed to permit a case to be tested in the law courts.

No fault can be found with football *per se;* on the contrary, when played in the true spirit of sport it is pre-eminently a manly, healthy game; but when we have reached a point at which it is at least as uncommon as not for an accident to happen in the course of any first-class contest we shall not be thought to be decrying the sport if we call it unduly dangerous. As we are not prepared to say more, believing that remedial measures must be suggested by experts, it may be considered that we have left the subject much as we found it. But that will not be the case if any comments of ours should lead those in authority to consider the measure of danger, its causes, its growth, and its possible remedies. As we have said before when writing on this subject, the importance of football cannot be over-estimated as a source of popular and health-giving amusement. The game is exactly fitted, by its splendid athletic possibilities as much as by the moderation of its demands upon the time and purse of its votaries, to be a truly national sport. We sympathise with the resentment with which thousands must regard any attempt to bring the game into disrepute by stigmatising it as brutal. But none the less its perils are excessive, and those who make the laws of the game and maintain

discipline among the players should see to this. Perhaps it would be possible to strengthen the hands of the referees but we understand that referees have already as much to do as they can accomplish and that to give them further duties, even with further powers, would be quite useless.

Annotations.

"Ne quid nimis."

THE BIRTHDAY HONOURS.

THE new list of Birthday Honours which appeared on Saturday last, Nov. 9th, is not a very large one and there is a notable absence amongst those who have received a place in it of self-seeking politicians and prodigal nonentities. It is a relief to read a list of honours in which recipients can produce such just arguments for the compliments paid to them by the Crown. The best-known name among the members of our profession is that of Professor Thomas Clifford Allbutt who has been made a Knight Commander of the Bath. Professor Allbutt's services to literature, to medical education, and to the science of medicine are alike eminent, and we heartily congratulate him upon his well-deserved honour. Lieutenant-Colonel and Honorary Colonel George Thomas Beatson, B.A. Cantab., M.D., C.M. Edin., R.A.M.C. (Volunteers), surgeon to the Western Infirmary, Glasgow, and to the Cancer Hospital in that city, who was already a Companion of the Order of the Bath, has been promoted to a Knight Commander; while Colonel Francis Lawrance Stephenson, M.B., C.M. Glasg., who is made a Companion, has done important work in connexion with the Royal Army Medical Corps (Volunteers) and has written with authority on sanitary subjects. The knighthood conferred upon Dr. W. H. Allchin will be recognised by the medical profession as a thoroughly well-earned one. Dr. Allchin is consulting physician to Westminster Hospital, the editor of a valuable manual of medicine which bears his name, has been a pillar of strength in the administration of the Royal College of Physicians of London, and is an authority on the intricate subject of the constitution of the University of London. Dr. William John Thompson, who has also been knighted, is physician-in-ordinary to the Lord Lieutenant in Ireland, physician to the Jervis-street Hospital, Dublin, and a representative member of the medical profession in Ireland. Dr. Robert Millar Coulter, Deputy Postmaster-General of the Dominion of Canada, and Dr. Arnold Theiler, Government veterinary bacteriologist in the Transvaal, have received the Companionship of the Order of St. Michael and St. George in recognition of their discharge of arduous departmental services. Mr. Augustus Charles Scovell, known to all London medical men from his prolonged chairmanship of the Metropolitan Asylums Board, is also one of the new knights. We have not always been able to see eye to eye with the Metropolitan Asylums Board concerning some of the details of its administration but we have never been blind to the enormous responsibility of the duties which it discharges and we felicitate Sir Augustus Scovell upon his distinction. Sir Charles Moss, Chief Justice of Ontario, who is also knighted, was formerly a Vice-Chancellor of the University of Toronto, which seat of learning has in recent times developed into one of the most important of our colonial centres of education, being especially strong in science and medicine. Medical men as members of the public at large will also be pleased to learn that His Majesty has conferred knighthoods upon Mr. Charles Santley, the veteran baritone, and on Mr. John Hare, the most artistic and finished actor of his generation.

THE HEALTH AND PHYSICAL TRAINING OF SCHOOL CHILDREN IN MANCHESTER.

IN THE LANCET of Oct. 19th we gave some account of the treatment of stammering children as conducted on behalf of the education committee of Darwen in Lancashire and we have now before us some details of the experience gained with similarly afflicted children in Manchester. In that city Miss E. Mona Clay has been engaged in this work since 1905. In the report of the Manchester Education Committee for the year ended October, 1907, Dr. A. Brown Ritchie, the medical officer to the committee, states that during this period eight classes of eight or ten pupils (84 children in all) have undergone treatment with very gratifying results. Each course lasted one month; the pupils attended twice every day for one hour for three weeks, and the fourth week once a day only. One boy who stammered very much was after treatment able most successfully to take the part of Julius Cæsar at a school concert before a large audience. A centre for instruction has been commenced at the Alfred-street Municipal School, Harpurhey, and Professor Berquand has been approached with the view of instructing teachers for this work. Dr. Ritchie, who has occupied his present position since 1902, states that during the past year the children attending the public elementary schools in Manchester have been subject to severe and continued epidemics of measles, whooping cough, and scarlet fever. The eyesight of 32,614 children was tested with the result that 2037 were found to be suffering from defects of such gravity as to warrant the parents being informed and 384 pairs of spectacles were provided for children of poor parents. Early in the current year the provision of meals for ill-nourished or necessitous children was undertaken by the committee. Meals were provided in seven centres covering 43 schools with an aggregate average attendance of 25,759, and tickets were issued to 1208 children. Dr. Ritchie examined and certified all the cases. He has found that this feeding of badly-nourished children has in many cases resulted not only in improved physical condition but also in improved capability for school work. Lectures on hygiene to pupil teachers and addresses to parents have also been delivered by Dr. Ritchie. Records of the height and weight of the boys and girls attending St. Peter's School, Bengal-street, and the Mill-street Day Industrial School have been made; at all ages the averages were decidedly less than those shown in the anthropometric committee's report in 1883. Under the control of the committee's instructor of physical exercises there is now applied to the whole of the children attending the public elementary schools an approved course of drill and physical exercises taught by class teachers. The scheme has been in operation for about five years and has proved an entire success by contributing greatly to the improvement of the health and general appearance of the children. The exercises are so arranged as not to produce an undue strain on the strength of those who are under instruction. The country school for Manchester children (situated at Mobberley, 12 miles from the city) was established through the generosity of the late Mr. Herbert Philips four years ago and is still carried on by the voluntary committee. The dormitories have been extended so as to accommodate 128 beds. There is a playing-field of about three and a half acres of grass; swings have been erected in it and tents stood here for the extension of the accommodation during part of the summer. The school receives relays of children for a fortnight each from April to October. The children are accompanied by their ordinary day-school teachers and are boarded, lodged, and taught during the period. The ordinary routine of the town school is continued, such alterations being made in the time table as are necessary for securing to the children the full benefit of their rural surroundings. Each child pays the sum

of 7s. for the fortnight's stay, including the railway fares to and from Mobberley. The balance of the cost, establishment charges, and so on, is met by voluntary contributions. Experience has shown that the children benefit in a marked degree by their residence at this country school. We have not been able to comment on more than a small portion of this voluminous report but enough has been given to show that the municipal authorities of Manchester are doing all that is possible for the physical welfare of the young population of the city. The conditions of life in a large manufacturing city inevitably have a deteriorating effect on the health of the inhabitants which can only be counteracted by the well-considered application of medical and sanitary science.

DRAINAGE OF THE UTERUS.

THE case recorded by Dr. A. A. Warden at p. 1383 is an interesting example of the great value of establishing free drainage from the uterus in certain cases of toxæmia due to the retention of infective materials in its cavity. The patient, after an apparently normal confinement, developed a rise of temperature on the fourth day to 102° F. On the seventh day the temperature went up to 103·6° and the pulse-rate was 110. An intra-uterine douche brought away about half a litre of turbid fluid. This was followed by a violent rigor and a rise of temperature, and a rigor also occurred when the douche was repeated on two occasions on the following day. The late Professor Budin, who saw the patient, took an unfavourable view of the prognosis and recommended the application of the *écouvillon* (or brush curette) to the interior of the uterus. This was done and the uterus was packed with gauze, with the result that the temperature fell to the normal and the pulse-rate to 84 per minute. A bacteriological examination showed the presence of the bacillus coli and micrococci of the tetrad group in the fluid. On the next day the removal of the gauze and the administration of an intra-uterine douche was followed by a rise of the temperature to 102·6°, a violent rigor, and a rapid pulse. Dr. Warden therefore packed the uterus again with iodoform gauze which he replaced on the next day by a long intra-uterine drain tube and a vaginal gauze plug. On the advice of the consultants who saw the patient the intra-uterine douching was again resorted to on the eleventh day, with the same result—namely, an elevation of temperature to 101° and a cessation of the discharge for 12 hours. The next intra-uterine douche brought away a large quantity of turbid fluid. Dr. Warden accordingly again resorted to drainage of the uterus and the patient from this time made an uninterrupted recovery. The number of cases of septic infection in which drainage of the uterine cavity is really necessary is an exceedingly small one. It is especially when there is a mixed infection, as in this case, that the interior of the uterus is likely to present a condition of septic endometritis often with extensive superficial sloughing of the tissues, and the amount of thin, purulent, offensive discharge which may come away is surprising. With such a condition present, if there is not a free exit for the decomposing discharges a very severe form of septic poisoning may ensue. It rarely happens, however, that there is any obstacle to the free escape of the uterine contents and drainage of the uterus is therefore but seldom called for. Vaginal douching, which no doubt often results in some, at any rate, of the fluid employed passing into the interior of the uterus, is in most cases sufficient to bring about the free escape of any sloughing material that may be in the uterus, and as it presents few or no dangers to the patient it should always be employed first. Uterine drainage is of course quite useless in cases where the organisms or the products of their growth have already penetrated into the tissues, and indeed in any case of infection it is attended by so many dangers and usually is followed by so little benefit to the patient that the means of treatment is not regarded with favour by the majority of obstetric physicians. The question as to whether in these cases curettage of the uterus should be carried out or not is a very important one. It is, however, undoubtedly an advantage to employ the brush curette, and it is a pity that it is not better known and more often used in this country. It resembles an ordinary small bottle brush and removes fragments of membranes and shreds from the interior of the uterus with great facility. Its use, too, is not accompanied by the danger of perforating the uterus—a risk which is always present in these septic cases, and it causes practically no damage to the healthy tissues of the uterine wall. We notice, too, that Dr. Warden used for his intra-uterine douches a solution of iodine, the best of all antiseptics for employment inside the uterus, and it is interesting to see that this drug was regarded with approval for this purpose by so high an authority as Professor Budin. We can congratulate Dr. Warden on the fortunate result attending his treatment and his case forms an interesting testimony to the fact that the uterus occasionally requires drainage just like any other infected cavity. At the same time we must not forget the great danger of drainage and the further fact that when strips of iodoform gauze used for this purpose have been examined after removal they have been found to be teeming with numerous organisms both streptococci and staphylococci. We may conclude, therefore, that the extended use of such means of treatment would increase rather than diminish the danger of these very serious cases. When it has been decided in a suitable case that the uterus requires drainage probably the best form of drain to use is not gauze alone but some form of drain tube such as that devised by Mouchotte consisting of a number of tubes united at their ends by light metal bands which allow of a free exit of all fluids from the interior of the uterus and at the same time of the ready administration when necessary of intra-uterine douches.

A NEW ROMAN OCULIST SEAL.

IN THE LANCET of July 20th, p. 175, mention was made of a new Roman oculist seal discovered at Este in Italy. This relic bears an unusually lengthy text of eight lines of writing and is practically in perfect preservation. Its inscription, omitting the fourfold repetition of the owner's name, which it will be seen is given in the genitive, is as follows :—

Epigathi. Diasmyrnes, post impetum lippitudinis.
,, Diasmyrnes, ad aspritudines tollendas.
,, Horaeon crocodes, ad aspritudines.
,, Theoctiston, ad diathesis tollendas.

The name of Epigathus has not appeared upon any other signet, neither does any such name for a medical man appear in the Prosopographia Romani, so the finding of his seal rescues him from oblivion. The first of the four collyria specially recommended by him, diasmyrnes, has been found advocated upon quite 50 oculist seals and frequently as remedy "post impetum lippitudinis." The Greek word from which it is derived is *διασμύρνης*—i.e., myrrh. The medical classics particularly mention its utilisation for diseases of the eye. Scribonius Largus, speaking of a collyrium containing it, says: "Diasmyrnes ..... ad pustulas, papulasque, et suppurationes oculorum." Dioscorides, in his description of the medicinal uses of myrrh, says: "Oculorum ulcera complet, exteritque albugines et ea quæ pupillis caliginem offundunt quin et scabrities expolit." Galen writes of "collyria quæ myrrham habent, quæ diasmirna proprie vocant." Dioscorides mentions a plant growing in Bœotia, called myrrha Bœotica, which possessed the same scent and qualities as the ordinary myrrh. In the famous edict of the Emperor Diocletian, "De pretiis rerum venalium," which was an enactment to

prevent the undue raising of the price of articles of general consumption by the "trusts" of Roman times, the price of myrrh was fixed together with those of other botanical medicaments. Unfortunately, the figure at which it was ordered to be sold at as a maximum price is not legible in the copies which we have of the inscription. Epigathus used myrrh "post impetum (pituitae) lippitudinis," that is, to cure the mucous secretion of ophthalmia. He prescribes the same collyrium for aspritudines (which connoted the palpebral granulations of trachoma) which he considered it would remove, but in line 3 he proposes a variant remedy. This line, by reason of the new word horaeon, constitutes itself the crux of this oculist inscription. The word crocodes is merely saffron and therefore horaeon must be some adjective or qualifying word relating to that plant. The first editor of this seal, an Italian *savant*, considered it to be an erroneous spelling upon the engraver's part and refers to the *ορδιον* of Pliny. But if we bear in mind how often upon these relics words derived from the Greek are inserted as a kind of commentary upon the medicaments used, such as basilinum, regal, hyginon, or ambrosium, it is possible that horaeon is derived from *'ωραῖος*, meaning ripe or seasonable saffron. The collyrium of the fourth line is an instance of another of those superlative titles for substances or mixtures just mentioned, *θεόκτιστον* meaning God-created, cf. *lapis divinus*.

SENTIMENT IN DIETETICS.

THE trite saying that "if you would enjoy your food keep out of the kitchen" implies, of course, that some, at all events, of the preparatory processes of the culinary department are on sentimental grounds objectionable and that a familiarity with them is likely to engender a distaste for morsels which otherwise are highly relished. It must be admitted that the object of cooking is not merely hygienic but æsthetic also, for the cooking improves the appearance of the food, develops new flavours, and makes it more attractive. A mental process begins at the sight of pleasing food which reacts on the gastric organs in such a way as to promote the digestion of that food. There are other circumstances which influence in one way or another the relish for food. There are not a few persons who would not drink milk if they saw it taken straight from the cow but who have no objection to it at all when it is taken from the jug on the tea table. Others do not care to eat the fish which they have caught themselves or the bird or hare which they have shot. The housekeeping wife as a rule enjoys her meals much more when she has taken no share in their selection or preparation. To her dining out means on this account more than it does to her husband who, perhaps, seldom knows of what his meal will consist until it is placed before him. The cook may see the caterpillar in the cabbage, the snail in the salad, or the beetle in the bread. If such disclosures in the kitchen (and they must often occur) are kept secret no harm need be done and no appetite need be spoiled. But should the cleansing process fail to remove the offending intruder and should it ultimately find its way to the table a feeling of horror overtakes the eater who has been unfortunate enough to come across it, a feeling which is quickly shared by others when the fact is brought to their notice. The sentiment which revolts at such happenings is sometimes very strong, yet the objection is more often of a sentimental rather than a hygienic kind. The fact that men tread the grapes with bared feet does not as a rule deter the epicure from enjoying his favourite wine, nor does the circumstance of a ripe Stilton swarming with mites detract from its qualities in the view of a good many people. Few, again, reject that delicacy the truffle because they may happen to know that its situation may have been discovered by the keen scent of the hog or that it may have been uprooted by the aid of that animal's snout. Some persons do not hesitate to eat with the greatest satisfaction meats that are almost putrid; the same persons would not think of touching the soup upon which there happened to float a tiny beetle. Yet the risk of harm accruing in the latter case is practically nothing compared with what might happen in the former. The fact is that sentiment in dietetics is oftentimes foolish and the ugly suggestions which it creates are frequently mythical. Still, it cannot be denied that the doctrine of clean food is an excellent one and more often justified than not.

A MODIFICATION OF THE WOLFE-KRAUSE METHOD OF SKIN-GRAFTING.

IN the *Glasgow Medical Journal* for October Dr. Archibald Young has described an important modification of the method of skin-grafting originally devised by Wolfe of Glasgow and modified by Krause of Altona. The skin required is removed from a suitable situation in the form of a long ellipse. The incision is made by a few bold sweeps down to the aponeurotic covering of the muscles. The flap thus includes skin and subcutaneous fat and is set aside in warm saline or borax solution. The wound is sutured and dressed. Every detail of asepsis is observed in this as in all subsequent procedures. The surface to be grafted is now uncovered. If it is a fresh wound made under aseptic conditions the only preliminary is the thorough checking of hæmorrhage. If thorough asepsis is not possible, as in the case of a burn, the granulating surface is gently irrigated with saline or borax solution and the surface is dried with sterile gauze. Any antiseptic used must be followed by abundance of saline solution and strong antiseptics must never be employed. The surface must be in a healthy state. All necrotic tissue and exuberant granulations should be removed some days previously. The surface should be level and of a healthy rose-pink colour. The edges should be smooth and free from dried discharge and epithelial débris. The flap is taken from the warm solution and the fat is expeditiously removed. This is quickly done by turning it over on the palm and cutting away the fat with a scissors curved on the flat. If only a small surface is to be covered the graft need not be divided; when the surface is large it must be divided into as many pieces as are necessary for distributing over the surface at suitable intervals. After the application of the grafts the surface is covered with some protective material which will sufficiently resist or modify the pressure of the overlying dressings, yet will, when moistened, lie closely over the grafted surface, keep the grafts in place, and permit escape of discharge through its perforations or meshes. Perforated gutta-percha or oil-silk may be used but Dr. Young recommends "the protective gauze tissue" introduced by Dr. J. C. Renton and prepared by M'Millan of Glasgow. The protective need not be changed for several days but the whole dressing external to it must be changed daily, taking care not to disturb the grafts. Thus all discharge and soiled dressings (which would be detrimental) are removed. A moist external dressing is the best. It should be abundant and sufficiently absorbent. Plain smooth aseptic gauze soaked with sterile saline or borax solution (not boric acid which may prove irritating) is the most satisfactory. It should be covered with a sheet of gutta-percha tissue or other waterproof substance. The whole is then supported lightly, firmly, and equably with wool and bandages. In this operation there are several important modifications of the Wolfe-Krause method. The subcutaneous fat is removed with the flap —a procedure which can be performed in a minute or two— instead of the tedious dissection of the skin. Moreover, it is a disadvantage to leave between the edges of the incision a mass of fat. This either limits the width of the flap which can be removed or necessitates undue traction or under-

cutting of the edges in closing the wound. Contrary to the teaching of Thiersch the superficial layers of the granulating surface are not removed before applying the grafts—a procedure regarded as both unnecessary and disadvantageous. The use of special protective gauze, of a moist dressing, and the daily changing of the dressing are also features of this method. Dr. Young claims a greater certainty of success than under any other. In nearly every case the complete integrity of the grafts—epidermis, dermis, hairs, and glands—is preserved. Dr. Young describes and gives illustrations of 11 cases. The following is an example. On June 3rd, 1903, a girl, aged 14 years, was extensively burned on the trunk and limbs. On June 13th sloughs were removed. There was a raw surface on the chest measuring 12 by 10½ inches. On July 9th grafting was performed with skin taken from the thigh; this skin was divided into 11 pieces, from one to four inches in length, and distributed over the upper left portion of the raw surface. On the 15th skin from the left leg was applied in seven pieces to the right half of the surface. On August 12th skin from the leg was applied to the lower part of the left side. On Sept. 19th skin from the thigh was applied to various points still uncovered. On Oct. 9th healing was complete and there was no contraction.

THE TINNING OF METALS AND ITS DANGERS TO HEALTH.

A VERY interesting report on the injurious processes connected with the coating of metal with lead or a mixture of lead and tin has been recently issued from the Factory Department of the Home Office. A previous report issued in 1902 had dealt with the conditions and results of employment in the enamelling of metals and tentatively on the tinning of metals, but the regulations proposed in that report applied only to enamelling processes and not to tinning processes. The writers of the report, Miss A. M. Anderson, the principal lady inspector of factories, and Dr. T. M. Legge, medical inspector of factories, state that at the beginning of 1903 they were not in a position to say with any certainty either (*a*) how many processes in the tinning of metals were clearly injurious or (*b*) what were the nature and extent of the regulations possible and necessary. For the purposes of the present report it was found necessary to secure the help of a chemist with a knowledge of the industrial processes and equipped for the steady and long series of observations and experiments required for elucidating the chemical problems. For this purpose the services of Mr. G. E. Duckering, inspector of factories, were granted and Dr. T. E. Thorpe, F.R.S., the principal chemist of the Government laboratories, assisted both by discussing the scheme of chemical investigation and by arranging for the analyses to be carried out by members of his staff. The results of this portion of the inquiry are embodied in sections of the report which are ably contributed by Mr. Duckering. The risks of the processes were unexpectedly made clear in a new way by the occurrence of illness due to fumes, fortunately soon overcome, in the case of Mr. Duckering himself during the time of his experiments. The sources of risk which raised the special problems for this report centre round (*a*) the molten metal, whether (1) in the tinning pit, or (2) on the still hot, fuming article, or (3) the dust formed by metallic oxides in their vicinity; and (*b*) the cleaning agents and fluxes. In tables prepared by Mr. Duckering the results are given of the estimation of the small amounts of lead compounds which, inhaled continuously, result in chronic plumbism. The "wiping off" process exposes the workers to greater risk than tinning. Occasionally a "wiper off" who has contracted lead poisoning resumes work as a tinner, as this is considered a less dangerous operation. In the recommendations the addition of lead to the covering mixture in the tinning of iron and metal hollow ware is prohibited. In addition such tinned articles may constitute a danger to those who use them as cooking utensils or for the purpose of containing food. The application of an efficient system of exhaust ventilation is also enjoined. Altogether there are ten regulations applying to employers and two to persons employed. The experimental portion of the inquiry relating to the conditions of work in the tinning workshops contains a very interesting account of the ingenious methods employed by Mr. Duckering for determining the quantities of deleterious substances inhaled by workers in a tinning shop per day.

FLANNELETTE.

A CORRESPONDENT from Manchester writes: "With reference to the interesting experiments by Mr. William Thomson on the inflammability of various samples of flannelette given in your issue of the 2nd inst. it would appear that this material has had to bear a worse character as to inflammability than it has deserved. The fact, however, remains that many children are burnt to death when wearing flannelette, if we are to believe the evidence given at inquests, not only in the Manchester district but all over the kingdom. But Mr. Thomson's experiments seem to show that this mortality ought not to have occurred as not being in accordance with the tests he applied to the accused material, and it must be acknowledged that these tests seem to be practical and thorough, yet after all they were laboratory experiments, which often have a way of disappointing experimenters when they are repeated in the rough-and-ready methods of everyday life. The evidence as to how the children contrive to ignite this seemingly refractory material is almost always imperfect, but 'playing with fire' is to them a most fascinating game, and to the younger ones 'warming themselves' is likewise a proceeding in which the lapse of a few seconds more or less is not likely to be regarded. Mr. Thomson's advice, however, as to the use of a mixture of cotton and wool for children's clothing is valuable. It already exists under the name of 'union.' The additional protection, however, of fireguards would probably save more lives than even the doing away with flannelette."

PRIMARY BILATERAL MASTOIDITIS.

BILATERAL secondary mastoiditis is rare; primary bilateral mastoiditis is still rarer. Of course, when mastoiditis occurs without evidence of otitis media, and is therefore called primary, it no doubt often is secondary to some slight inflammation of the middle ear which has passed away unobserved. In the *Montreal Medical Journal* for October Dr. P. G. Goldsmith has reported the following case of primary bilateral mastoiditis. A woman, aged 61 years, had a mild attack of what appeared to be influenza—a temperature of 102° F., cough, general aches and pains, and slight bronchitis. A week later she had a chill and rise of temperature to 104°, with a return of the catarrhal symptoms. This was regarded as a relapse. On the following day the temperature fell to 99°. In the next four or five days she complained of much pain in the head, especially on the vertex and in the course of the posterior auricular nerve. The mastoid processes were not tender and there was no aural discharge. Both membranes were normal and hearing was not impaired but the posterior wall of the cartilaginous external auditory meatus was tender. Four days later the pain in the vertex persisted to some extent and was associated with some tenderness over the mastoids. On the next day the walls of the external auditory meatus on both sides were much swollen. Dr. Goldsmith then saw the patient and found slight tenderness over the right mastoid antrum and some indefinite tenderness over the left. The meatus was

much obstructed by swelling but the drums could be seen and showed nothing abnormal. On the following day a little pus was found in the external ear but it came from the posterior wall of the canal and not from the tympanum. The temperature was 99°. The question whether the aural condition was the cause of the symptoms was very difficult. The state of the patient caused concern for though the temperature did not rise above 100° there was marked and increasing depression. It was decided to trephine the right mastoid as this appeared to be the most severely affected. On chiselling into the bone creamy pus was found at a short distance. The mastoid cells were extensively involved. The lateral sinus was laid bare and an extradural abscess was found over the vein. The other mastoid antrum was then opened and exactly the same condition was found. Large cells along the posterior wall of the bony meatus were found extensively diseased and communicating with the canal. This accounted for the discharge in the ears. The aditus and tympanum were left alone as they showed no evidence of disease. The pus was of pneumococcic origin. Healing was rapid. A straw-coloured discharge containing pneumococci persisted for about ten days.

MEDICAL MEN AND MUNICIPAL HONOURS.

THE following is a list of members of the medical profession who have been elected or re-elected to the mayoral chair for the forthcoming year: Aldeburgh, Mr. C. D. Somers, M.B., B.C. Cantab., M.R.C.S. Eng., L.R.C.P. Lond.; Arundel, Mr. G. W. Eustace, M.D., B.Ch., B.A.O. Dub.; Bootle, Mr. J. Pearson, M.R.C.S. Eng., L.R.C.P. Lond.; Brecon, Mr. G. P. Francis, L.R.C.S. Edin., L.A.H. Dub.; Bury St. Edmunds, Lieutenant-Colonel R. Anderson, R.A.M.C. (retired), F.R.C.S. Edin., L.R.C.P. Lond., M.R.C.S. Eng.; Conway, Mr. R. A. Prichard, L.R.C.P. Edin., M.R.C.S. Eng.; Liverpool (Lord Mayor), Mr. R. Caton, M.D., C.M. Edin., F.R.C.P. Lond.; Montgomery, Mr. N. W. Fairles-Humphreys, M.R.C.S. Eng., L.S.A.; Neath, Mr. J. W. Thomas, M.R.C.S. Eng., L.R.C.P. Lond.; New Romney, Mr. R. R. Daglish, M.R.C.S. Eng., L.S.A.; Oldham, Mr. R. Gourlay, M.B., C.M. Glasg.; Rotherham, Mr. G. H. Lodge, L.R.C.P., L.R.C.S. Edin., L.D.S. R.C.S. Irel.; Welshpool, Mr. R. D. Thomas, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg.; and Wimbledon, Mr. S. R. Collier, M.D., M.Ch., M.A.O. R.U.I.

THE PREVENTION OF TUBERCULOSIS IN SOUTH AFRICA.

IN the *Transvaal Medical Journal* for September, 1907, is published a report by Dr. C. Porter, medical officer of health of Johannesburg, to the public health committee of the Johannesburg Municipal Council in regard to the prevention and compulsory notification of tuberculosis. Dr. Porter has evidently thoroughly considered the evidence obtainable from all sources and sets forth in detail the reasons which induced him to take up a certain attitude as to the measures which should be adopted to endeavour to check the spread of the disease. His conclusions and recommendations are as follows. He states that in Johannesburg the mortality per 1000 from tuberculosis amongst whites and Asiatics is about two-thirds of that in England and Wales; that it is much higher amongst the natives working in mines, especially amongst the Portuguese, but that other classes of natives are apparently rather less affected than whites. He considers that for the present, at any rate, compulsory notification of tuberculosis should not be recommended. He supports this contention by quoting the late Sir Richard Thorne's remarks in his third Harben lecture in 1898. Dr. Porter recommends, however, that the Johannesburg council should invite voluntary notification of tuberculosis by medical practitioners, such notification to be paid for in the ordinary way. He further recommends that a letter should be addressed to the members of the medical profession inviting their invaluable assistance in educating patients suffering from pulmonary tuberculosis as to the observance of necessary precautions, and that to assist their efforts a supply of printed cards setting forth such precautions in simple language should be sent with each letter. Dr. Porter also suggests that every facility should be afforded as occasion offers for disinfecting the premises occupied by patients affected with tuberculosis and that such disinfection should be carried out in all cases in which death has occurred, such deaths to be notified promptly by the registrars. Dr. Porter is of opinion that provision at the public expense of sanatoriums for tuberculous patients is not advisable at present. He also believes, and we think quite rightly so, that amongst natives and coloured persons the most practical procedure in combating tuberculosis is the vigorous enforcement of general sanitary regulations, and especially of those relating to conditions of housing. The universally favourable outcome of attention to sanitary matters in the prevention of tuberculosis is undoubted and the results thus achieved are most encouraging. We are entirely in accord with Dr. Porter's recommendations. It is to be hoped that with the regulations necessary to carry out his views tuberculosis, especially of the pulmonary variety, will considerably decrease in the Transvaal and all South Africa if similar regulations become general throughout the colonies.

CORPORA AMYLACEA IN URINE AND BILE.

THE peculiar bodies to which Virchow applied the name of corpora amylacea have been found in various situations within the body, including the spinal cord, the ependyma of the cerebral ventricles, the lungs, and the prostate. They also sometimes occur in the sputum in cases of bronchial asthma and pulmonary tuberculosis, in colostrum, and in carcinomata. Recently they have been found under certain conditions in the bile and urine by Dr. Anton Veit and Dr. K. J. Wederhake of Düsseldorf, who have recorded their observations in the *Münchener Medicinische Wochenschrift* of Oct. 7th. In addition to the ordinary test with iodine and sulphuric acid, which stains these bodies a bluish-green, a bluish-red, or a deep-blue colour, they have employed a modification introduced by Seigert who described two kinds of corpora amylacea—viz., corpora versicolorata, which are stained deep-brown, and corpora flava which do not give an amyloid reaction. This method consists in hardening in alcohol, washing in water, staining with a strong solution of iodine in iodide of potassium, decolourising in absolute alcohol, counter-staining in a mixture of one part of tincture of iodine and four parts of alcohol, and mounting in oil of origanum. Dr. Veit and Dr. Wederhake have found it a tedious and difficult process to find these bodies in urine and bile by this method and have therefore adopted a method discovered by Dr. Wederhake himself. The fluid to be investigated is centrifugalised and the supernatant fluid is poured off, leaving only about one cubic centimetre in the tube; to this is added one drop of tincture of iodine and the mixture is vigorously shaken. One cubic centimetre of a concentrated solution of crocein-scarlet 7*B* in 70 per cent. of alcohol is then added and the tube is again well-shaken, then filled with water, and again centrifugalised. The deposit is drawn up by means of a pipette and examined in Farrant's solution. The typical corpora amylacea are blue-black or deep blue in colour and marked by characteristic lamination; to these they apply the name of iodo-amyloid bodies; in addition they find bodies of similar structure but oval in contour, often larger in size and staining red. These forms they call erythro-amyloid bodies. Tested with iodine and sulphuric acid

they give the typical reaction and are thus corpora amylacea in Virchow's sense of the word. Dr. Veit and Dr. Wederhake examined 150 urines and found corpora anylacea in both healthy and abnormal specimens, but in many of the cases in apparently healthy people in which they were present it was found that there was a history of a recent illness with high fever. The number of these bodies of both varieties is markedly increased in conditions of acute cystitis but not in urethritis. In chronic cystitis the increase is chiefly in the iodo-amyloid bodies, in renal conditions they are not increased, and they appear therefore to have some diagnostic significance as between renal and vesical conditions. These investigators were able to find similar iodo-amyloid bodies in many gall-stones, especially in small gall-stones, or fragments taken from near the centre of larger ones. They also found them in the bile of two patients with biliary fistulæ who had suffered from gall-stones. They suggest as a possibility that these bodies occurring in catarrhal conditions of the gall-bladder and urinary bladder may play an important part in the genesis of calculi in both these situations. Corpora amylacea have hitherto been regarded as pathological curiosities and no great importance has been attached to them. The present research shows, at any rate, that they merit more extended study.

ELECTRIC NARCOSIS.

Professor Leduc has described a condition, to which the above name has been given, brought about by the application of electric currents to the brain and during which the subject is without voluntary movement, makes no reply to stimulation, and exhibits only some reflex movements—the beating of the heart and respiration—and this state can be maintained for several consecutive hours, ceasing immediately with the stoppage of the current. The current employed is an intermittent one of low tension and unidirectional. The impulses follow one another at the rate of 100 per second and the duration of each impulse is one-tenth of this, or one-thousandth of a second. This form of current is produced by a special design of commutator for this purpose and the frequency as well as the relation of duration of impulse to duration of interval are what have been found best for the production of electric narcosis after a prolonged and extensive series of experiments. Professor Leduc has also found that the results obtained when the source of energy is from accumulators are much better than when the street mains are used. The current is applied to the head by means of electrodes placed antero-posteriorly, suitably padded and adapted to the surface contour. The interruption is first started and then the current is gradually turned on—at first quickly, then more slowly. As in chloroform narcosis, excitement first comes on, followed by inhibition, but by raising the current very slowly during the period of excitement the animal without a movement or sign of pain passes into a state of cerebral inhibition analogous to the narcosis of chloroform or ether. The animal reacts to no stimulus, any operation can be done on it, and the limbs if moved seem to be under no influence except that of gravity. When the current is cut off the awakening is instantaneous. Usually the animal gets on to its feet, looks quietly about, and shows no sign of fright, suffering, or fatigue. In the case of the animals experimented upon there were no after-effects, no vomiting, rarely a little stupor, and no resentment or aversion to the experimenters. It is not necessary to describe these experiments in any further detail here—enough has been said to demonstrate their importance. So far the method has been applied only once to the human subject, and then not to complete loss of sensation, and that was to Professor Leduc himself in the presence of Malherbe and Rouxeau of the School of Medicine of Nantes. He describes his sensations very minutely and his only regret was that they did not carry the narcosis to the degree of complete anæsthesia. The paper should be read by every medical man, whether he be interested in medical electricity or not, and in connexion with this and other actual and possible uses of electric energy in medicine we refer our readers to the interesting address by Mr. W. Deane Butcher which appears at p. 1363 of this issue.

TRADITION AMONG QUACKS.

THERE is a tradition of quack medicines, just as there is an orthodox medical tradition. In that mine of information, the report of the Royal Commission upon "Secret Drugs, Cures, and Foods," published in August last for the Government of the Commonwealth of Australia, several paragraphs deal with the constituents of quack medicines for the cure of cancer. The great majority of cancer pastes contain phosphorus, zinc chloride, and arsenic which are applied with the object of "killing the cancer and drawing it out by its roots." Now nearly 80 years ago, in that scarce and interesting satirical paper *The Town*, appeared two letters on "The Cancer-curing Humbugs," which go far to prove that there is nothing new even in imposture. The writer, an M.R.C.S., after giving a very clear account of the disease as then understood, proceeds to enumerate the ingredients of fashionable cancer cures. "'Justamond's ointment for cancer' is made of seventy-two pints of cinnabar, twenty-two of dragon's blood, and eight of the oxyd of arsenic. This is to be moistened with saliva at the moment in which it is to be applied. The celebrated French nostrum, entitled 'The Pâte Arsenicale,' is made in the same way. 'Wright's pearl ointment' consists of arsenic and hemlock rubbed up with common lard. 'Davidson's ointment' contains likewise hemlock and arsenious acid. 'Plunkett's ointment' consists of arsenic, sulphur, flowers of ranunculus, hammula (*sic*), and cotula fœtida, mixed up with the white of an egg; and the notorious impostor, Aldis, 'cures cancer without the knife' by sprinkling arsenic on the surface of the ulcer." The allusion to Mr. Charles Aldis is, of course, a libel. Mr. Aldis was a good surgeon and was afterwards knighted, much to the indignation of "M.R.C.S." "Whenever," says the latter, "a surgeon has recourse to the remedy (arsenic) he is compelled to use the utmost circumspection in its administration, and yet, with the utmost recklessness, these charlatans thrust forth such a dangerous remedy to the public, careless of the consequences provided their money is rendered safe."

THE Department of Public Health of Queensland in a bulletin dated Oct. 5th states that at Cairns a boy was reported to be suffering from plague on Sept. 28th; on Sept. 30th 2 more cases were reported—namely, in a woman and a boy. The boy died on Oct. 1st and the diagnosis was confirmed by post-mortem examination. On Oct. 3rd a wharf labourer was reported as plague-stricken but he recovered. As regards the Mauritius, a telegram from the Governor received at the Colonial Office on Nov. 8th states that for the week ending Nov. 7th there were 17 cases of plague and 9 deaths from the disease.

Mr. Alfred Henry Spurrier, L.R.C.P. Lond., has been granted the Royal licence and authority to accept and to wear the Insignia of the Second Class of the Order of the Brilliant Star of Zanzibar, conferred upon him by the Sultan of Zanzibar in recognition of valuable services rendered by him.

THE autumn meeting and dinner of the Irish Medical Schools and Graduates' Association will be held at the Hotel Cecil on Wednesday, Nov. 27th, at 7.30 P.M., when the

special guests of the association will be Sir James Digges La Touche, K.C.S.I., and Sir Shirley Forster Murphy.

A SPECIAL meeting of the Epidemiological Section of the Royal Society of Medicine will take place at 20, Hanover-square, London, W., on Monday, Dec. 2nd, at 8.30 P.M., when papers on Plague will be read by Dr. J. Ashburton Thompson and Mr. W. M. Haffkine.

THE next session of the General Council of Medical Education and Registration will begin on Tuesday, Nov. 26th, at 2 P.M., the President, Principal Donald MacAlister, being in the chair.

THE Infants' Hospital, Vincent-square, S.W., will be opened on Wednesday, Nov. 20th, at 3 o'clock, by H.R.H. the Duchess of Albany.

THE MEDICAL SERVICE FOR THE PROPOSED TERRITORIAL FORCE.

SANITARY ORGANISATION: A MEETING OF THE SOCIETY OF MEDICAL OFFICERS OF HEALTH.

Surgeon-General Sir ALFRED H. KEOGH, K.C.B., Director-General of the Army Medical Service, on Nov. 8th read a paper before the Society of Medical Officers of Health at the rooms of the society in Montague-place, Russell-square, Dr. GEORGE REID, the President, being in the chair. There was a large attendance of members and visitors, many medical officers of health from country districts being present.

Sir ALFRED KEOGH first read the following paper upon Disease Prevention in the Territorial Force, with a Proposed Scheme for placing Medical Officers of Health in Relation to it:—

"I am much indebted to your council for permitting me to be present to-day to put before you some points which must be regarded as of primary importance in relation to the Territorial Force.

Recent Progress in Army Sanitary Organisation.

It is a lamentable fact that experts in the art of war had not previous to 1899 taken sufficient note of the astonishing discoveries of Pasteur and others and did not at once recognise the importance of their bearing upon the efficiency of armies in the field. It is a still more lamentable fact that in the very army in which sanitary science had its birth, in the country in which sanitary science has been specially cultivated in civil life, no serious attempt by means of a definite organisation had been made to make sanitation a branch of the science and art of war. The active measures of army reform which have been proceeding apace, render it impossible to defer any longer measures which should long ago have been taken, and within the last year a definite system of disease prevention has been organised in the regular army. Some details of what has already been effected in this direction are contained in the leaflet which is appended to this contribution.[1]

For purposes of description I propose to divide disease prevention in an army in the field into two heads—viz., unit sanitation and sanitation of geographical areas. The organisation in each is, from an administrative point of view, fundamentally different. Units are battalions of infantry, regiments of cavalry, batteries of artillery, &c. Armies are large masses of men leading a nomadic life, traversing large tracts of country, camping in one place often for prolonged periods, and therefore placed under conditions admirably adapted for their destruction by disease; this not infrequently happens, whilst always a heavy preventable impairment of efficiency is incurred. It is sufficient to remind you of the sanitary history of the vast camps of 1898 in Virginia, Florida, Georgia, and Pennsylvania with their record of 20,738 cases of enteric fever alone in the brief period of five months. Were this a lay audience it would hardly be necessary to cite another instance. The circumstances in the British Army under which these things have occurred were these. It was the duty of a regimental doctor, primarily appointed for clinical work, to draw the attention of the officer commanding to sanitary matters affecting the unit and to make recommendations connected therewith. He then retired to his tent and remained an inactive spectator of the future course of events. It is true that in case of need he had a remedy. In case of non-compliance with his recommendations he might report his commanding officer, and leave further events to the general officer commanding. The highly technical work was, therefore, imposed upon laymen, the technical expert was an adviser. The sanitary work of a regimental medical officer was in truth supplementary to his first-aid work, to what were called his purely professional duties. The army was in fact trained to appreciate first aid. Lectures on first aid were common, the mode of application of a first field-dressing was a serious consideration, stretcher drill for fighting men was an army ritual of no mean importance. We have changed this limited conception. We place the sanitary work of a regimental medical officer in the first line of his duties. We select the individual for his known interest and zeal in the pursuit of this branch of knowledge. We have designed in future that while the commanding officer remains responsible for the interior economy of his battalion in all its branches, he in his turn will hold the regimental sanitarian responsible for sanitary efficiency and for disease prevention. But while we do this we provide the technical expert with an establishment by means of which he should, if he will, work to a good end. A non-commissioned officer and eight men per battalion are now trained on the lines recognised as necessary for sanitary inspectors. In addition a non-commissioned officer and four men of the Royal Army Medical Corps, trained in all that pertains to the provision of pure water under all imaginable conditions, are attached to each battalion. This establishment of one officer, two non-commissioned officers, and 12 men supervises the details of sanitation in camp and on the line of march. We have founded a school of army sanitation at Aldershot under Lieutenant-Colonel R. H. Firth, whose efforts towards the training of non-commissioned officers and men and of officers are bearing fruitful results. We have given two water-carts per battalion instead of one, fitted with a filter apparatus and capable of delivering 100 gallons of pure water per hour; an apparatus easily sterilised and durable. Other methods of water purification, as well as methods of disinfection, &c., are being taught. Briefly put, this then is unit sanitation. But it is obvious that more than this is required. We provide, therefore, that sanitary companies consisting of specially trained officers, non-commissioned officers, and men of the Royal Army Medical Corps, shall arrange for the efficient sanitation of the base of operations, as well as for each station or post on the lines of communication. No soldier trained for fighting is involved in this work, and the hospital establishments are separate, distinct, and independent organisations. Over all we place a special sanitary committee to advise the supreme commander.

The Medical Service of the Volunteer Force

is admittedly highly defective. Firstly, there are no hospitals in the Volunteer Force, and yet even a small force of say 70,000 men will give not far short of 2000 sick within a few days in camp or quarters; secondly, there is no sanitary organisation whatever. There is not a single medical officer in the Volunteer Force designated specially for disease prevention. Can you not picture the consequences if even the small force of 70,000 men were massed at any one place in the country in time of trouble? There are no schemes for the isolation of infectious disease; there are no special establishments for supervision of camp sanitation; there is no organised method for disseminating in peace the necessary knowledge of military sanitation amongst the officers, non-commissioned officers, and men of the Volunteer Force as there now is in the regular army, and without which all our efforts are vain. There is no sanitary committee supervising the whole scheme of sanitation in time of war.

The British Medical Association has placed before the Secretary of State the outlines of a scheme for the general reorganisation of the Volunteer Medical Service, and effect is about to be given to its proposals. It is obvious that regard must be had to sanitary requirements, and that a place should be found in the new organisation for sanitarians. In designing the new schemes, I have endeavoured to act upon the principle that the Volunteer Medical Service should be an exact reflection of the medical service of the regular army,

[1] See Appendix.

with the added advantage of a regimental medical system in peace time. I have considered that the medical work of the Territorial Force of the future should be performed by a definitely constituted body, coördinate in its various branches, capable of representing in time of war in the United Kingdom the combined effort of our consolidated profession. In other words, a corps—like the Artillery, the Engineers, the Medical Corps. I am not unmindful of the fact that in the past certain restrictions and certain demands for 'efficiency,' necessary in the case of civilians undergoing a training in tactics and strategy, were imposed upon members of the medical profession desirous of assisting in the patriotic work of Volunteers. It has not been sufficiently recognised that the members of the medical profession were already trained in their profession. The effect of restrictions as to training in time of peace has been to exclude from participation in the national work many of the great physicians, surgeons, and especially the medical officers of health without whom an army cannot exist. The Territorial Force of the future will have divisional organisation, the divisions being raised in fixed areas, for which purpose England and Scotland and Wales have been divided into 11 areas, each consisting of a certain and varying number of counties. A division will consist of troops of the various arms of the service—Artillery, Engineers, Cavalry, and Infantry, with Army Service Corps for supply and general transport duties, and a Medical Corps for sanitary, medical, and medical transport duties. Now the medical service of a division is required for various purposes. Each division in the regular army has three field ambulances (organisations each consisting of ten officers, 241 non-commissioned officers and men). These receive the sick and wounded from the regimental medical officer (of whom I propose there shall be two to each battalion), transfer them, under arrangements made by the principal medical officer, to the localities where we propose to organise hospital staffs. The distribution of the staff of officers, non-commissioned officers, and men must therefore be as follows:—(1) To battalions; (2) to field medical units; (3) to hospitals on lines of communication; (4) to hospitals at the base; and (5) to the administrative staffs of the divisions.

Now here is the position of the expert sanitarian: the medical officer of health. In war there is a necessity for constant supervision over the environment of the fighting force. The danger of laxity in sanitary matters is ever present. The battalion medical officers should efficiently conserve the sanitation of the battalion as part of the internal economy of the corps, and to this end military sanitation should be taught them, so that both by them and by the officers of the corps generally sanitation should be taught to combatant units; for unless there is a coördinated system of sanitation throughout the army, unless the area of country in which troops are operating is supervised by a coördinated sanitary department, the efforts of the individual may readily fail. An organised military department of sanitation must, therefore, be called into existence. It is obvious that if in the Territorial Force the work involved is not done in time of war by those who are constantly dealing with kindred problems in time of peace, it cannot be efficiently done at all. It is obvious that an appeal is only possible to one set of men—the health officers of the country—and it is equally obvious that without their assistance in time of invasion the Territorial Force will have to solve its sanitary problems under extremely difficult conditions as best it may. I propose, therefore, to ask the medical officers of health of the country to combine in a great voluntary organisation, having for its object the preservation of the health of the large masses of men who may one day be required to defend the country. I ask them to enrol themselves in the Medical Corps of the Territorial Force and to take voluntarily upon themselves the duty of considering the problems to be solved during active operations within their own home area; to be ready, should the day come, when we may have to defend ourselves at home, to place their knowledge and experience at the disposal of the authorities commanding their divisions of the Territorial Force. In time of stress some could come forward, some could not. But since each territorial area contains many counties, the roll of possible contributors to efficiency could be sufficiently large to enable some to coöperate in the work. I require no conditions of service except the obligation to assist in the event of war at home, and no service whatever during peace. Service in time of invasion would be, of course, paid service, as in the case of officers of the Territorial Force generally. But even these conditions are not sufficiently elastic. I do not desire to advocate a hide-bound system. If in peace time, in connexion with a general rehearsal in any area, a health officer would desire to spend a day or a week with the division to which he belongs, I would advocate that the regulations be so framed as to admit of this. The problems of field sanitation are difficult. Some may desire to foresee them. [Sir Alfred Keogh added a few words here as to the training of the non-commissioned officers of the sanitary department, saying, further, that he would not at present consider the ambulance details. He continued:—]

The scheme is a simple one—it must be simple to be practically effective. It is an invitation to the members of the public health branch of our profession to place themselves *à la suite* of the Territorial Force, a condition well recognised in Continental armies. It has been said by many that membership of a military organisation reacts beneficially upon the country. Surely I may claim that one of the main advantages of the system I advocate here to-night (involving as it does the dissemination of knowledge of the origin and spread of disease—knowledge only recently acquired by ourselves) is not only wholly to the advantage of the Territorial Force, but is wholly to the advantage of the nation. Nothing that I propose is useless in civil life. The whole is a propagation of knowledge of natural laws. Half the sanitary difficulties of the regular army would be solved if but these things were taught in the schools of the country. The great enemy after all is ignorance. If, therefore, our home military system be never required, who shall say that *our* work has been in vain?"

APPENDIX.

THE SANITARY ORGANISATION OF THE REGULAR ARMY.

SANITARY EDUCATION.

A School of Army Sanitation has been founded at Aldershot.

At this school the following classes are formed: (*a*) Officers' classes of not more than 25 officers. The course should last four weeks and an examination be held at its termination. The lectures will embrace the whole of the subjects mentioned in the manual of sanitation. (*b*) Classes for regimental non-commissioned officers and men to form regimental sanitary sections for instruction in the disposal of excreta and refuse, in camp cleanliness, and in sanitary police duties, to fit them to perform these duties on active service. One non-commissioned officer and eight men per regiment, battalion, or brigade of artillery, will be trained. A class will not exceed 45 non-commissioned officers and men. (*c*) Classes consisting of not more than 25 non-commissioned officers and men, general duty section, Royal Army Medical Corps, to be instructed in practical sanitation in the field and in the duties of water sterilisation.

Officers are examined and those who gain 50 per cent. of the marks will be recorded as "passed." Those who gain 75 per cent. will get a special certificate in sanitation.

In addition, throughout the garrisons general officers commanding-in-chief arrange for at least one annual course of lectures in sanitation for officers. The lectures are given by the command sanitary officer or by a selected officer of the Royal Army Medical Corps. All officers who can be spared attend these lectures.

A manual of sanitation has been prepared and has been issued to all concerned. Instructions and examinations will be primarily based upon this manual.

EXAMINATIONS OF COMBATANT OFFICERS IN SANITATION.

After March 1st, 1908, all lieutenants will be required to pass an examination in sanitation before promotion to the rank of captain. A lieutenant may be examined without having attended a course o lectures.

INSTRUCTION BY REGIMENTAL OFFICERS.

Officers of companies, squadrons, &c., will give instruction to their non-commissioned officers and men in sanitation.

INSTRUCTION OF MILITARY OFFICERS AT THE STAFF COLLEGE.

At the Staff College a course of 12 lectures on sanitation will be given annually by a specially selected officer of the Royal Army Medical Corps.

INSTRUCTION OF CADETS AT THE ROYAL MILITARY ACADEMY, WOOLWICH, AND AT THE ROYAL MILITARY COLLEGE, SANDHURST.

At the Royal Military Academy and Royal Military College a course of ten lectures will be given annually, either by the resident medical officer or by a specially deputed officer of the Royal Army Medical Corps. The cadets of the senior division only will attend these lectures.

An examination in sanitation, based upon the official manual, will be included, after March 1st, 1908, in the final examinations of cadets in the senior division.

SANITATION IN WAR.

Every battalion is furnished with the establishment mentioned above, and establishments are provided for sanitation at the base of operations as well as at important posts on the lines of communication, where the conditions of life more closely approach those of a civil community.

SANITARY INSPECTION COMMITTEE.

On mobilisation being ordered a sanitary inspection committee will be formed for service in the field, consisting of a combatant officer as president, a field officer, Royal Engineers, and a field officer, Royal Army Medical Corps, as members. The committee will act under the orders of the general officer commanding-in-chief.

The duties of this committee will be:—(*a*) To ascertain that sanitary appliances and materials of all kinds required for the army are forthcoming and that an adequate reserve is maintained. (*b*) To assist

general officers and the medical service in their efforts to maintain the health of the army by coördinating not only the work of the different military branches but also the military and the civil sanitary organisations of the country or area occupied. (*c*) To initiate schemes of general sanitation and to serve as a board of reference for the solution of sanitary questions. (*d*) To visit and inspect stations occupied by troops, to advise local authorities regarding necessary sanitary measures, and to further in every way the maintenance of satisfactory sanitary conditions. They will report to head-quarters any measures they consider necessary but which they cannot arrange for locally.

Sir Alfred Keogh then turned to explain two diagrams hanging on the wall representing the medical and sanitary services of an army in the field as outlined under the new scheme. He called attention in the former to the institution of clearing hospitals behind the fighting line as a link between the field ambulances and the hospitals along the lines of communication. He insisted on the extreme responsibility of the Army Medical Service in taking complete charge of the non-effective army, not only in treating it medically but in clothing, feeding, paying, and transporting it and in deciding whether its units should return to the fighting line or be invalided home, which was a decision of the utmost moment to the success of any army in the field. He went on to say that even these duties were secondary to the enormous importance of the sanitary service of the army, that such a regular organisation was entirely new in the British Army, and that he looked on it as the most important branch of the Royal Army Medical Corps. He laid great stress on the fact that the sanitary officers will be sanitarians only and will have no clinical functions. He amplified the remarks he had already made on the organisation of the new service.

The scheme was fully discussed by Colonel LANE-NOTTER, Colonel ELLISTON, Mr. F. E. FREMANTLE, Dr. W. R. SMITH, Dr. R. DUDFIELD, Dr. LOUIS C. PARKES, Dr. WILLIAM BUTLER, Mr. H. BEALE COLLINS, Mr. HOWARD JONES, Dr. H. COOPER PATTIN, the PRESIDENT, and others. The President suggested that a committee of the society and of members of the Local Government Board should confer with the Director-General on the subject of approaching local authorities to obtain their acquiescence to the participation of their medical officers of health in the scheme. He further suggested that this might best be done through the lords-lieutenant of counties as heads of the county associations. The scheme received the warmest support of nearly all the speakers, although several questions of detail were raised.

Sir ALFRED KEOGH in his reply said that his next step would be to draw up regulations for the duties of medical officers of health in peace and war if they should join in the organisation which he proposed. He replied to many of the points raised and pointed out that under the new army scheme large bodies of men will be liable to be massed at a short notice in many districts, which must be of great concern to the medical officers of those districts; they had accordingly much better belong to the force and have an official say in the disposition of those troops. A county sanitary survey for this purpose was urgently necessary. Sir Alfred Keogh was able to speak very sanguinely about the future of the sanitary service of the army and announced that he had received promises of personal support from many medical officers of health. His remarks were greeted with enthusiasm and the meeting terminated with a vote of thanks to the Director-General.

MEDICAL AND SURGICAL ORGANISATION: A MEETING OF METROPOLITAN MEDICAL MEN AT THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

Following on the conferences with the members of the medical profession which Sir Alfred Keogh has recently held in important provincial centres, the Director-General addressed a gathering of members of the medical staffs of the London hospitals and of Volunteer medical officers within the London area and others in the library of the Royal College of Physicians of London on Nov. 12th. Sir Richard Douglas Powell, President of the College, occupied the chair, and he had on his right hand the Right Hon. R. B. Haldane, M.P., Secretary of State for War. He was further supported by Mr. Henry Morris, President of the Royal College of Surgeons of England, and a thoroughly representative assembly of the leaders of the various branches of the medical profession in London. The meeting was furnished with copies of a memorandum issued from the War Office which dealt with the proposed organisation and included the tables incorporating its chief features which we were in a position to place before our readers a fortnight ago.[1] A leaflet dealing with the sanitary organisation of the regular army was also circulated which was identical with the appendix to Sir Alfred Keogh's recent address to the members of the Incorporated Society of Medical Officers of Health which we print in another column of our present issue. To an audience thus well informed Sir Alfred Keogh said that the scheme on which he desired to address those present for the organisation of the medical profession for home defence was not rightly described as his scheme; it was rather the profession's own scheme for he had been personally in communication with the members of the profession throughout the country on the matter. He acknowledged the support which he had received from Mr. Haldane and he proceeded to define the duties of the medical profession to the country in war. The succour of the sick and wounded in the field was an important part of the duty of an army medical service, but humanitarianism was not its first object, as was generally supposed. This might rather be defined as "to maintain the fighting strength of an army in the field." Sir Alfred Keogh proceeded to explain the present organisation of the medical service of the new expeditionary force by means of diagrams and recapitulated details such as we have already published. He called particular attention to the establishment of clearing hospitals at the head of the line of communication, the duty of which would be to relieve the field ambulances and to empty these as fast as they were filled. The Army Medical Service had at present every single field hospital for an expeditionary force in store and immediately available. The wastage of an army in the field was very great and it was the duty of the Army Medical Service to prevent this wastage, to maintain the efficiency of the fighting force. He proceeded to define the "general" hospitals as those containing 520 beds, and the "staticnary" hospitals as smaller units. Up to the present time the sanitation of the troops had been looked after by the hospital officers, and he submitted that no man could run a hospital of 520 beds and perform general sanitary duties for the neighbouring troops as well. He pointed out that there never had been any sanitary service in the regular army up to the present time and said that such a service, entirely distinct from the "Red Cross" branch of the Army Medical Service, had now been devised, and proceeded to explain the main points of its organisation. In the Volunteer army of to-day, he continued, there were blanks in many directions and its medical and sanitary service was especially deficient. The danger attached to mobilising Volunteers had been proved to be greater than that of mobilising regulars, for the men came from their own homes where they had been under no sanitary supervision or discipline. Turning to the subject with which he especially desired to impress his audience he reminded them that absolutely no hospital organisation existed at present in the Volunteer army; there were bearer companies, but there was no hospital to which they could take the sick and wounded. It was idle to point to the civil hospitals; in the event of an invasion there must be great distress in this country and the civil hospitals would be full to overflowing. The Volunteer army must have its own hospitals and its own hospital staffs. It must further provide field ambulances and a sanitary service on the model of the regular army. There was no existing administrative service for the Volunteer Medical Service. They proposed to appoint to each of the definite territorial areas of the new Territorial Force a principal medical officer from the existing Volunteer Medical Service with a staff officer from the regular army to assist, and at first to guide him. In the London area one cavalry field ambulance and six infantry field ambulances were wanted, with four general hospitals and a sanitary officer for each division. Under present conditions our great physicians and surgeons were practically excluded from participation in the Volunteer Medical Service by its requirements. He held it as a sound principle that if the work done by an individual in times of peace be the same as would be required of him in war, he had no need specially to train for that work in the former times. Administrative officers for the new service must, however, be trained, and it was desirable that the sanitary officers should see something of the new conditions of their work, but the physicians and surgeons on the staffs of the new hospitals would have no liability for duty except in time of invasion.

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[1] THE LANCET, Nov. 2nd, 1907, pp. 1265 et seq.

In each hospital they required one administrator, one registrar, and one quartermaster who would train annually, and a larger number of physicians and surgeons than was actually necessary would be attached to each staff in order to give the scheme the utmost elasticity. These officers would have no responsibility whatever in the organisation of these hospitals; the War Office would undertake their provision and equipment, and they were already beginning to see daylight in this matter. All they asked of the medical profession was that they should join the Territorial Force to come out in time of invasion. They wanted 23 general hospitals of 520 beds each with 12,000 beds in all and with a capability for expansion throughout the country. Peripatetic schools of instruction would be established in the various area. Sir Alfred Keogh concluded his speech by explaining the necessity of the so called "red tape" for which the Army Medical Service was blamed. He had tried for six years to reduce the number of papers and documents in use in the service but he had been quite unable to do so. Those papers were of the utmost importance, for they contained the record of every man admitted to a field hospital and often formed the basis of pension claims later. They further enabled medical officers to keep the commanding officers of patients under their charge informed of their state and were necessary for the information of patients' relatives at home. He felt that when this was understood they would hear less complaints about the compilation of these records. He thanked the President and Censors of the Royal College of Physicians for permitting that important meeting to take place.

Sir Alfred Keogh was followed with great attention and his remarks were punctuated by applause, which was also loud when he resumed his seat.

Mr. HALDANE then rose. He began his remarks by welcoming the sight of many old friends who had helped him nearly ten years ago in the task of organisation of the higher education in London. They were met again to speak of the value of science and organisation in another aspect. He complimented Sir Alfred Keogh on his admirable description of the advance made by science in dealing with medical organisation. Bitter experience had brought them there to make an earnest appeal to that audience. They were endeavouring to work out a perfectly definite conception. The army was a vast machine with many wheels worn out or missing and not one-half of the work it ought to be doing could be done. In war time nothing could be done efficiently which had not been prepared for during peace, and the preparations must be carried out with a view to war alone. He asked, What was an army? It was a collection of formed bodies subdivided into smaller formed bodies which were effective in accordance with the training which had been put into their organisation; the training vastly increased their potency. So, also, in each great division of army organisation, working together with a common purpose and training for a common purpose held that division together. They were concerned to prevent wastage in war and the scientific element in army medical organisation had that aim in view by reducing sickness. The functions must be carefully ascertained and distributed and the basis of that appeal was an attempt to carry through a scientific organisation at the War Office. A trained expeditionary force was required to act at a distance to hold together our Empire, to preserve peace and good government within it, and to guard its frontiers. Their conception was a second-line citizen army for home defence organised exactly on the pattern of the regular expeditionary force; it must be a real and not a scattered force, with a perfect and complete mechanism. Experience had taught them that in the regular army they required an organisation not less perfect than Sir Alfred Keogh had described. Great strides had been made in the last few years and the work of Sir Alfred Keogh had brought about great strides in the last few months. All the State could do was to provide the organisation, find the material, and appeal to the people's patriotism. This special appeal was to men of science to help in the highest type of scientific organisation, and they asked the heads of the medical profession to help in that task. He had known a good deal of that profession and he knew that there was no body in this country more keen or interested in national defence. It was a great task and would not be accomplished in a day or a year or several years. They were trying to build up an army for home defence such as Switzerland possessed. The War Office had in days gone by held too much aloof from the nation, from which the army had also been cut off. They wanted to root the army in the nation, and as part of the process they had come to that audience with their plans and wanted their coöperation. Mr. Haldane concluded his speech amidst applause, which had also greeted many of his remarks.

Mr. HENRY MORRIS, President of the Royal College of Surgeons, then moved:—

That this meeting having heard with great interest the proposal for the formation of a Territorial Medical Service, sympathises with the objects in view, approves of the proposal, and pledges itself to support the scheme.

In an eloquent speech strongly supporting this motion he especially pointed out that medical men were asked to render service in the way of their professional work, other men in a manner distinct from their ordinary avocations. He further aptly quoted from a speech of Edmund Burke, who said, "Politically we are all a sort of children who require to be soothed as well as managed." He was very glad that the War Office had taken that line with the medical profession. He made a warm appeal to the patriotism of his audience, concluding with the words of Shakespeare, "Nought shall make us rue, if England to itself do rest but true."

Dr. P. H. PYE-SMITH seconded the motion which was carried by acclamation.

Sir FREDERICK TREVES then moved:—

That the President of the Royal College of Physicians and the President of the Royal College of Surgeons be jointly requested to form a small committee to consider and inform the Director General of the Army Medical Service how the proposals for a Territorial Medical Service can best be carried into effect.

He said that the scheme tended to fan the very small flame of patriotism in this country in time of peace and that the medical profession had a great influence on public opinion. The scheme would bring the Army Medical Service more closely into touch with the civil profession. The changes in that service since the South African War had been absolutely unprecedented in its history, thanks chiefly to the present Director-General and the sympathetic attitude of the Secretary of State for War. He alluded to the recent great output of first-class scientific work by members of the service, and pointed out that the civilian would find the work of the new Territorial Medical Service most interesting.

Colonel P. BROOME GILES, R.A.M.C. (Vol.), seconded the motion, which was carried unanimously, after which the meeting broke up.

THE REPRESENTATION OF THE MEDICAL FACULTY ON THE SENATE OF THE UNIVERSITY OF LONDON.

THE following are the election addresses issued to the members of the Faculty of Medicine by Professor E. H. Starling, Dr. Norman Moore, and Mr. F. C. Wallis, who are contesting the vacancy in the representation of the faculty occasioned by the resignation of Dr. Lauriston E. Shaw:—

Dear Sir or Madam,—I wish to indicate shortly the reforms which I think are urgent in the present relations of the University to medical education in London and which, if elected, I would forward to the best of my ability.

1. *The need for a more accessible degree.*—The regulations of the University are at present framed rather with a view to the exclusion of students than to the improvement of medical education in London. I consider that every student in a London Medical School ought to be a student of the University and that with proper modifications in the regulations and, what is more essential, a corresponding modification in the attitude of the University towards the medical schools, the large majority of London medical students should be able to obtain their degree at the University.

2. *Increased time for clinical subjects.*—At the present time most of the preliminary and early medical studies are determined without any regard to the uses to which the student will be required to put the knowledge gained in the early years of the curriculum. The ordinary student who is to be a general practitioner ought not to be required to spend time on the acquisition of knowledge which he will never use. The necessary opportunities for those students who desire to pursue more deeply the study of the medical sciences and who may at a later period be expected to forward our knowledge of these subjects by research have been afforded by the establishment of the B.Sc. Honours School. As regards the ordinary student, the whole of his studies should have a distinct bearing on, and lead up to, the knowledge of the human body and its control in disease. With a curriculum on these lines it would be possible for the large majority of students to pass the Intermediate M.B. examination at the end of the second winter session, as has been recommended by the faculty, thus allowing the minimum of two and half years (a period all too short) for the study of medicine, surgery, obstetrics, and pathology. A change in this direction would be of benefit, not only to the medical, but also to the scientific, training of the London student, and would therefore tend to an actual raising of the standard of the degree.

3. *The "concentration" question.*—On this point I can only repeat the opinions I have already expressed at meetings of the Faculty. There can be little doubt that in its ultimate development the University will charge itself with the training of the student in the arts and sciences, leaving the special training of the doctor, lawyer, engineer, banker, &c., in the hands of professional schools. Such schools will have a large degree of autonomy but will be affiliated to the University. In the case of the Medical Faculty, such a division of labour would be in the best interests of the preliminary and early sciences, as well as of the teachers of these subjects, while it would allow the hospital schools to devote their whole energies to the teaching and investigation of disease. At the present juncture I consider that the University, having collected money for a specific purpose from the public and made agreements with certain medical schools, is in honour bound to put this purpose into effect and to carry out its agreements to the best of its ability. On the other hand, as the reputed head of all the medical schools of London the University is under an obligation to take no step which would injure in any way the financial conditions of these schools or of their teachers. These conditions would be met and a valuable site secured for the University if a small compact school were erected at South Kensington with accommodation for the students of those medical schools that desire to send their students there, it being expressly understood that no school desiring to maintain its preliminary and early medical departments as hitherto should be penalised in any way for so doing.

I believe that the adoption of this line of action would meet with the approval of the majority of teachers and would harm no established school, and that the settlement of this question would leave the Faculty free to press forward the reforms which are so urgently required for the welfare of medical education in London.

I am, yours faithfully,

ERNEST H. STARLING.

Physiological Laboratory, University College, W.C., Oct. 17th, 1907.

*** Professor Starling appends to this address a preliminary list of those members of the Medical Faculty who have promised to support him, and it forms a most imposing array of educational authorities.—ED. L.

LADIES AND GENTLEMEN,—I have been asked to offer myself for election as a representative of the Faculty of Medicine on the Senate, and now that the vacancy is announced it seems right to state my views on some of the questions affecting our Faculty in the University.

I am of opinion that the foundation, on the site offered, of an institute for research in physiology, pharmacology, and those parts of biology related to pathology, is in the highest degree desirable, but that it is undesirable to erect at South Kensington a centre for the teaching of the preliminary and intermediate parts of the medical curriculum. A revision of that curriculum must soon take place, and I believe that the erection of a "third centre" and the endowment of professors connected with it would tend to maintain the present proportions of the several subjects and thus retard an essential improvement in medical education. It is clear that at present insufficient time is left for clinical work and that the relations of the preliminary and intermediate studies to clinical observation and to medical practice require reconsideration.

I approve of a high standard for the medical degrees of the University and I believe that it is not the maintenance of such a standard in medicine and surgery which makes the proportion of students who think of graduating in London so small but the present arrangement of the curriculum and of the earlier examinations.

To diminish the time spent in their medical schools by drawing students away to a building at South Kensington would tend to destroy a part of the academic life which it is desirable to foster in the University of London, and which is particularly important in the training of students whose profession deals with human beings, and not merely with book learning or laboratory work. The present constitution of the University is the result of prolonged efforts on the part of the teachers of London. It affords great opportunities for the improvement of medical education, and I most earnestly desire that no step should be taken towards diminishing those opportunities, or which might allow the University to relapse into its former condition of an examining body careless of the opinions of teachers or of the needs of students.

I have the honour to be, Ladies and Gentlemen,

Your faithfully,

NORMAN MOORE.

Gloucester-place, Portman-square, W., Oct. 26th, 1907.

DEAR SIR OR MADAM,—The resignation of Dr. Lauriston Shaw has caused a vacancy on the Senate in the representation of the Faculty of Medicine. At the invitation of several influential members of the Faculty I have accepted nomination as a candidate.

There is a widespread impression that the question of establishing a third centre for preliminary medical education at South Kensington has been definitely settled in the negative. This, however, is far from being the case. As a direct result of the recent elections and of the vote of the Faculty on the subject the Institute of Medical Sciences Committee of the Senate by a narrow majority has advised the abandonment of the scheme. This committee has in consequence been dissolved and a committee of laymen appointed to collect evidence and report; and upon this report the future policy of the Senate must largely depend. It is therefore of the utmost importance that the Faculty should re-affirm its previous decisions and thus finally dispose of this prolonged controversy. There is a further impression that agreements have been made with certain medical schools to establish such a third centre at South Kensington. This impression is without foundation. In fact, no assurances, either written or oral, have been given, and the University has incurred neither legal nor moral obligations in this respect.

It has also been stated that money has been collected for this specific purpose alone. But in the several appeals in response to which the funds were subscribed two objects were explicitly mentioned—namely, preliminary and intermediate teaching, and higher teaching and research. Owing, however, to the inadequate response to the appeals, the realisation of both of these aspirations is no longer possible, the option of the free site offered to the University by the '1851' Commissioners lapsing with the present year. Moreover, several of the medical schools have now finally decided to retain their preliminary and intermediate teaching and have expended large sums of money on improving such teaching and accommodation. In this respect, also, it seems to have been forgotten that the centres especially provided by the University at University and King's Colleges for schools wishing to surrender their early teaching are by no means full and could accommodate many more than the students available.

On the other hand, the provision existing in London for higher teaching and research is altogether inadequate; nothing is more urgently needed than the thorough organisation of these branches of university work. The only feasible method of saving the valuable site offered the University is to allocate the subscribed £70,000 to the establishment and endowment of an institute for these purposes in close touch with the teachers and the courses of instruction at the various schools. The advanced lectures already established are a move in the right direction, and furnish an admirable nucleus for further expansion.

At this juncture it is most desirable that the schools interested should be fairly and impartially represented on the Senate. University College and its hospital have already ample means of expressing their views, no fewer than six members of the Senate being either members or direct representatives of these institutions. At present there is no surgeon directly representing either the Faculty of Medicine or the medical members of Convocation, and it is only equitable, in view of the surgical degrees conferred by the University, that this side of clinical work should be properly voiced. The medical and scientific portions of the curriculum are already amply provided for, but the only two surgeons on the Senate are there to represent the Royal College of Surgeons. As surgeon to one of the hospitals vitally interested in preserving the autonomy of its medical school and as dean of that school I am intimately acquainted both with the needs of the surgeon and with the complex problems of medical education in London.

I am fully aware that there is urgent need for reform, more especially with regard to the proportion of time allotted to clinical studies, and the accessibility of the medical and surgical degrees, but until the question of concentration is definitely settled all reforms must necessarily remain in abeyance. The return of a candidate pledged to promote the establishment of a third centre of preliminary and intermediate medical studies at South Kensington will unquestionably re-open the whole controversy, and it is with the hope of preventing this that I have consented to offer myself as a candidate. If you are in agreement with the opinions I have expressed you will greatly aid my candidature by filling in and forwarding the inclosed post-card to Dr. Beddard, who is kindly acting as the honorary secretary of my election commitee.

I am, faithfully yours,

Harley-street, W., Oct. 28th, 1907. F. C. WALLIS.

The following letter has been addressed to Sir A. Rücker, Principal of the University of London, by Dr. A. C. Latham, who was Dean of St. George's Hospital at the time of the negotiations between the University and that hospital:—

DEAR SIR ARTHUR RÜCKER,—In view of the extract from a letter of yours which has been sent round to the Faculty of Medicine by Mr. F. C. Wallis it appears that the authorities of St. George's Hospital have been thought by you, and perhaps by others, to have accused you personally of a breach of faith.

I hasten on behalf of my colleagues and myself to assure you that we have never held nor expressed such a view. Throughout our negotiations with the University we were treated by you with the greatest courtesy and consideration and in a way entirely honourable to yourself and the University. Our standpoint is in no way personal; neither have we any grievance against the University. Our contention is that if under pressure from certain quarters the Senate should depart from its intention of erecting a teaching centre at South Kensington such a change of policy would involve a breach of faith on the part of the University towards us.

This contention is, as we have already stated, founded upon what we know to be true—namely, that we were assured that the erection of the centre was the settled policy of the University, and upon this assurance we were not interested in the transference of our students to King's and University Colleges, but to the third centre, and therefore all our arrangements were made with the University itself; whereas the authorities of the Westminster Hospital Medical School, who, as you will remember, did not wish to send their students to South Kensington, made their arrangements directly with King's College and not through the University.

We fully understood that for the erection of the institute two conditions were necessary: first, that schools of the University should be willing to send their students to it; and, secondly, that sufficient funds should be collected to build it. In both of these points the response fell short of what was hoped for. The sum of money originally mentioned was not subscribed and several schools did not agree to come into the scheme. The response of the public was, however, commensurate with that of the schools and our point is that a site has been offered and a sufficient sum has been collected for the erection of an institute large enough for those schools which have accepted, or are willing to accept, the overtures made by the University.

I beg to remain, yours very truly,

St. George's Hospital, S.W., Nov. 10th, 1907. ARTHUR LATHAM.

P.S.—In order that we may remove any possible misapprehension as to your personal position in this matter I am sending a copy of this letter to the medical press.

Sir Arthur Rücker, M.A., D.Sc., LL.D., F.R.S.

A statement in Mr. F. C. Wallis's address has already been challenged in our columns by the authorities of St. George's Hospital, and as a result the following letter has been addressed by Mr. Wallis to the constituency for the bye-election to take place on Thursday next, Nov. 21st:—

DEAR SIR OR MADAM,—A clause in my address—["There is a further impression that agreements have been made with certain medical schools to establish such a third centre at South Kensington. This impression is without foundation. In fact, no assurances, either written or oral, have been given, and the University has incurred

neither legal nor moral obligations in this respect."]—has been stated by representatives of St. George's Hospital, in a communication which I have just received, to be incorrect; and the claim is made that the University is under obligations to that school to establish a third centre at South Kensington. This claim was also made by Professor Starling in his address to the Faculty of Medicine.

The information upon which I wrote that clause was derived from unimpeachable sources. I have since written to the Vice-Chancellor, inclosing a copy of my address, in which this clause was marked, and asking him to inform me if that presentment of the case was right or wrong.

In reply I have received a statement, signed by Sir Arthur Rücker, of which a copy is appended. So authoritative a pronouncement must surely be regarded as final, and I think it only just that the members of the Faculty should be apprised of the complete accuracy of my statement. I resent the implication of urging "the University to repudiate its obligations," which, on the highest authority, I am informed do not exist.

I am, faithfully yours,

107, Harley-street, W., November 8th, 1907. F. C. WALLIS.

SIR ARTHUR RÜCKER'S STATEMENT.

6th November, 1907.

I have no recollection of making any pledge, either to the authorities of St. George's Hospital or to any one else, that the University would establish an Institute of Medical Studies at South Kensington.

This negative evidence is supported by the fact that I have always had it vividly before my mind that no such Institute could be established unless the necessary funds were raised; and that it would, therefore, have been impossible for me to have given a pledge which I well knew the University might be unable to fulfil. I am certain that had I been asked for such a pledge, I should have replied that it was the intention of the University to carry out the scheme, provided, and provided only, that adequate funds could be raised.

(Signed) ARTHUR W. RÜCKER, Principal.

*** Further correspondence on this subject addressed to ourselves will be found on p. 1417 of this issue.—ED. L.

THE FIFTY-SIXTH REPORT OF THE INSPECTORS OF LUNATICS (IRELAND) FOR THE YEAR ENDING DEC. 31st, 1906.

THE number and distribution of the insane in establishments on Jan. 1st, 1907, were as follows: In district asylums 19,306 patients (10,452 males and 8854 females), of these 110 patients were boarded out in workhouses under the provisions of the Act 38 & 39 Vict., c. 67, s. 9; in the Central Asylum, Dundrum, 162 patients (140 males and 22 females); in private asylums 845 patients (390 males and 455 females); in workhouses 3128 patients (1210 males and 1918 females), not including the 110 above mentioned; and single Chancery patients in unlicensed houses 113 patients (62 males and 51 females). This summary shows that there was a total increase of 189 during the year, the corresponding increase for the previous year having been 369, and it is satisfactory to note that, with one exception—viz., 1893, when the increase amounted to 152—the increase during 1906 was less than that which took place during any of the past 21 years. Further, the increase in 1906 was 311 less than the average increase for the preceding ten years, which was 500. The numbers in district asylums increased by 249; those in private asylums and institutions for the insane by 27; and those in Dundrum Asylum by 2; while the numbers in workhouses decreased by 87 and the Chancery patients in unlicensed houses by 2. During the last 26 years (1880–1906, inclusive) the total number of lunatics under care has increased by 10,572: the inmates of district asylums have increased by 10,639; the criminal lunatics in Dundrum Asylum have decreased by 15; the patients in private asylums and institutions have increased by 223; while the pauper lunatics in workhouses have decreased by 385. The inspectors state that the above figures only deal with the number of the insane in institutions or otherwise brought under official registration; they do not include all the insane in the country, as a number reside in their own homes, or with relatives, or are wandering at large. The general census is the only means by which the number of the latter classes can be estimated and it is found that they amount approximately to about 15 per cent. of the total.

Proportion of insane to general population.—The number of the insane under care has increased from 250 per 100,000 of the population in 1880 to 537 per 100,000 in 1906.

District asylums.—There are 24 district asylums in the country, and during the year 1906 there were 3524 (1936 males and 1588 females) admitted into these institutions, and of these 2763 (1491 males and 1272 females) were admitted for the first time. It is satisfactory to note that the admissions, which decreased in 1904 and 1905, showed a further decrease of 248 in 1906. The total number of patients discharged from the district asylums during the year was 1815 (1043 males and 772 females), and of these 1304 (751 males and 553 females) were reported as "recovered." The deaths numbered 1457 (779 males and 678 females), and the death-rate per cent. of the daily average number resident was 7·6 (7·5 males and 7·7 females). Three deaths were by suicide and five from misadventure. The inspectors state "that the prevalence of phthisis (consumption) as a cause of death in Irish asylums is a subject which opens a field for grave consideration." This disease was registered as the cause of death in 25 per cent. of the total deaths of last year, and it was far more prevalent in the southern than in the northern asylums. The number of patients dying from general paralysis remained about the same as last year—viz., 54. In the inquiry that took place at the Monaghan Asylum concerning a death by suicide in that institution the inspectors called attention "to the advisability of insisting that all charge nurses, at least, should be compelled to acquire the certificate of the Medico-Psychological Association for proficiency in mental nursing so as to be qualified to render first aid in cases of this kind" (suicide).

Zymotic disease in district asylums.—There were 16 cases of enteric fever amongst the patients and three amongst the staff in Ballinasloe Asylum, and there were also several cases of dysentery. There were 13 cases of erysipelas in the Belfast Asylum. In the Cork Asylum nine patients and one of the staff were attacked by enteric fever which proved fatal in four cases; there were nine other cases of dysentery and three of erysipelas. There were 12 cases of epidemic pneumonia at the Downpatrick Asylum. In Ennis Asylum there were nine cases of enteric fever. There were 11 cases of this disease at the Letterkenny Asylum. There were nine cases of typhus fever at the Maryborough Asylum. In the Monaghan Asylum there were eight cases of enteric fever and two of erysipelas. At the Omagh Asylum the sanitary condition is still unsatisfactory. There were 22 patients and two members of the staff attacked with enteric fever and nine of the former and one of the latter died from the disease. There were five cases of dysentery, two of which were fatal; five cases of scarlet fever, one fatal; two cases of erysipelas, and a fatal case of diphtheria. In the Richmond and Portrane Asylums four males and 88 females were attacked by dysentery, with a fatal result in one male and five females. Seven patients suffered from erysipelas, one from scarlet fever, one patient and two of the staff from measles, and a member of the staff from enteric fever; 21 patients were returned as having been attacked by pneumonia which was the cause of death in 16 cases and pulmonary tuberculosis attacked 86 patients, this disease being returned as the cause of death in 51 cases. In several other of the district asylums there were two or three cases of enteric fever reported and influenza was very prevalent in all.

The accommodation.—The details of the works recently carried out, in progress, or urgently required at the various district asylums are fully dealt with, and the inspectors report serious overcrowding in the following institutions: Ballinasloe, Cork, Ennis, Londonderry, and Sligo; also the water-supplies in several of the asylums are in urgent need of attention.

Dietaries.—When referring to the dietaries the inspectors state, "as pointed out in last year's report, the diet scales of Irish district asylums, although satisfactory in most instances as regards the amount of food given and as regards its nutrition value, fall short, owing to their want of variety, both in the kind of food and in the manner of cooking it."

Persons of unsound mind in Irish workhouses.—On Jan. 1st, 1907, the pauper lunatics in Irish workhouses (exclusive of those maintained under the ninth section of the Act 38 & 39 Vict., cap. 67, who are included in the population of the district asylums) numbered 3128 (1210 males and 1918 females), which is a decrease of 87 (54 males and 33 females) in comparison with the numbers on Jan. 1st, 1906. The inspectors state that "in reporting on the condition of the insane in Irish workhouses, we cannot state our views on the subject better than by quoting the following paragraphs from the recent report of the Vice-Regal Commission on Poor-law Reform in Ireland, with which we thoroughly agree:—'As far as we are aware, the opinion is universally held that the condition of lunatics in practically every workhouse is unsatisfactory. They are confined generally throughout the day in a small, bare, comfortless ward, with an adjoining

walled-in yard for exercise, and the attendants in charge are, as a rule, without any experience or training to make them suitable for taking charge of lunatics. It is not possible to provide in workhouses as they are adequate or satisfactory accommodation for lunatics, because all the wards, yards, and grounds are already appropriated for the various classes of inmates—the lunatics having their share (such as it is) in accordance with the original plan of the building. Improvements have been made in some of the larger workhouses, but not to any extent sufficient to justify us in modifying the general opinion as to the unsatisfactory condition of the insane in workhouses.' The Commissioners go on to state that: 'Lunatics in workhouses are officially inspected and reported upon by the inspectors of lunatics, as well as by the inspectors of the Local Government Board, so that the Lunacy Department in Ireland is in a position to concur in, or dissent from, our opinion, which is that auxiliary asylums, such as Youghal, would be infinitely preferable to workhouses for the accommodation of chronic harmless lunatics.'" The inspectors add that "we have already stated in our last report, that we were impressed with the improved condition of the insane removed from workhouses to the Youghal Auxiliary Asylum, and we consider that the results of the change are most satisfactory, and deserving of our warm approbation, as the condition of these patients is certainly much preferable to that of the insane inmates of any of the workhouses of Ireland."

Private asylums.—In Ireland accommodation for the insane who are able to contribute towards their maintenance is provided: 1. In licensed houses, of which there are 12. 2. In establishments which may be denominated lunatic hospitals. These establishments are not kept for profit and were originally endowed by private individuals. Of these there are four—Bloomfield, St. Patrick's Hospital, St. Vincent's, and the Stewart Institution. 3. A certain number of private patients who are able to contribute small sums towards their maintenance are received into district asylums. On Jan. 1st, 1907, the number of patients resident in licensed houses and lunatic hospitals was 845 (390 males and 455 females), showing an increase of 27 on the number resident on Jan. 1st, 1906.

The inspectors again draw attention to the want of provision for the care and training of imbecile children.

The report, which is a very full one, contains the usual statistical tables and the reports made by inspectors when visiting the various asylums.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Nov. 14th, 1829.

CLAIMS OF THE AMERICANS TO THE DISCOVERY OF THE ERGOT OF RYE.

To the Editor of THE LANCET.

SIR,—I am not disposed to dispute with Mr. James Morss Churchill about the name of the man who first made use of the ergot of rye, or at what period of the world the discovery of its properties may be dated; that gentleman has, however, yet to prove, that Dr. Stearns, of New York, became acquainted with it through European intelligence. Dr. Stearns himself has publicly declared his ignorance of its ever being employed medicinally, in America or elsewhere, at the time he was first led so to make use of it, and, in the absence of better authority than I have yet seen offered to invalidate that declaration, I feel it my duty to give it support, or, at least, not to impeach its accuracy. It is not sufficient to assert he did not make the discovery, more especially in relation to his own country, and therefore to recognise presumption and supposition as opposed to matter of fact, or to what has never been contradicted. Mr. Churchill must be aware of Dr. Stearns's enunciation, and in the 29th Number of his Medical Botany (a valuable work, certainly), from which the principal part of his communication in THE LANCET of the 24th ult. is extracted, he says not a word which can possibly be construed to affect the credit of our "Transatlantic brethren," or their claim to the discovery. Jonathan is, therefore, even *caressed* by Mr. Churchill himself. Mr. Churchill had then the opportunity to express his doubts and witticisms; why, it may be reasonably asked him, did he withhold them? Fair play is a jewel. If the "borrowed plumes" of Dr. Stearns were even to be arraigned, Dr. Bigelow's observations (if nobody else brushed his recollection) were before him; but Mr. Churchill thinks proper (unaccountably so) to be silent. Camerarius, and the midwives, might have bungled on with the ergot to the present period, and it is very likely our knowledge of its properties would have been as much spread now as it was then. Desgranges, to whom Mr. Churchill wishes to concede all the merit, might have lent his talents in the laudable work of propagating its acquaintance, but under him the prejudice of the people was unmoved. He also found himself too weak for the *giant*, and, unfortunately for his posterity, the ergot, like an ungrateful churl, disregarded his labours, and, leaving this world without a disciple that either could, or would, continue the goodly work, sunk again to be forgot among the weeds, reviling the man who could thus impiously disturb the tranquility of its ancient slumber.

Harvey is said, and very justly, to have discovered the circulation of the blood, and yet long before his time the subject had attracted the notice of others. To say, then, that he was indebted to his forefathers for the first glimpse into the secret, is what Harvey himself, I presume, would not deny, nor indeed, in the abstract, would the admission of the fact lessen the value of his discovery, or subject him to the scandal of shining in "borrowed plumes." The same might be urged of, perhaps, all recent discoveries, and more especially of those which belong to medicine and surgery. "There is nothing new under the sun," has long become a trite adage, nevertheless it was a cunning observation of Solomon, and the experience of every age, since his time, has given additional proof of its truth.

After all, therefore, which has been said by Mr. Churchill on the discovery of the medicinal qualities of the ergot of rye, in his endeavour to rest that discovery on old Camerarius, the midwives, or Desgranges it comes to this, that Dr. Stearns, not to mention his declared ignorance of these ladies and gentlemen, will be the individual whom the profession even of this country will consider the most entitled to the honour of having succeeded so well in diffusing so extensively a knowledge of this valuable article of the *materia medica*.[1]

Yours very obediently,

Liverpool, Nov. 2, 1829. THOMAS WEATHERILL.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8407 births and 4499 deaths were registered during the week ending Nov. 9th. The annual rate of mortality in these towns, which had been equal to 15·7, 14 6, and 15·7 per 1000 in the three preceding weeks, declined again to 14·6 per 1000 in the week under notice. During the first six weeks of the current quarter the death-rate in these towns has averaged 15·2 per 1000, the rate in London during the same period being 14·1 per 1000. The lowest death-rates in the 76 towns last week were 6·4 in Croydon, 7·0 in Walthamstow, 8·3 in King's Norton, and 8·4 in East Ham; the highest rates were 20·5 in Liverpool, 20·7 in Stockton-on-Tees, 21·8 in Halifax, 23·3 in Merthyr Tydfil, 23·5 in Wigan, and 25·6 in Hanley. The 4499 deaths from all causes were 311 fewer than the number in the preceding week, and included 391 which were referred to the principal epidemic diseases, against 747, 563, and 499 in the three preceding weeks; they included 132 from diarrhœa, 76 from measles, 55 from diphtheria, 54 from whooping-cough, 48 from scarlet fever, and 26 from "fever" (principally enteric), but not any from small-pox. No deaths from any of these epidemic diseases were registered last week in Tottenham, Northampton, Huddersfield, Wigan, Aston Manor, or in six other towns; the annual death-rates therefrom, however, ranged upwards to 2·6 in Reading, in Stockport, and in Oldham, 2·7 in Walsall and in Swansea, 3·0 in Warrington, 3 4 in Barrow-in-Furness, and 6·2 in Merthyr Tydfil. The fatal cases of diarrhœa, which had decreased from 660 to 212 in the five previous weeks, further fell to 132 in the week under notice, the highest death-rates from this cause

[1] Vide "Looking Back" in THE LANCET of Oct. 12th, p. 1042, and Oct. 28th, 1907, p. 1186.

being 1·5 in Portsmouth, 1·6 in Swansea, 1·8 in Preston and in York, and 2·2 in Walsall. The deaths from measles, which had risen from 35 to 85 in the five preceding weeks, declined again last week to 76, and caused death-rates ranging upwards to 1·3 in Reading, 1·4 in Cardiff, 2·0 in Burton-on-Trent, 2·5 in Barrow-in-Furness, and 4·8 in Merthyr Tydfil. The fatal cases of diphtheria, which had been 47, 52, and 61 in the three preceding weeks, declined again last week to 55, of which 18 occurred in London, five in Manchester, and three in Salford. The 54 deaths from whooping-cough were seven fewer than the number in the previous week; the greatest proportional mortality from this disease was at the rate of 1·5 per 1000 in Warrington and in Oldham. The fatal cases of scarlet fever, which had been 54, 50, and 48 in the three preceding weeks, were again 48 last week, the highest death-rate being 1·5 in West Bromwich. The 26 deaths from "fever" showed a decline of six from the number in the preceding week, and included six in London, three in Nottingham, two in Liverpool, and two in Sheffield. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had steadily risen from 2658 to 5467 in the 26 preceding weeks, had further increased to 5604 at the end of last week; 667 new cases were admitted during the week, against 820, 793, and 832 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory system, which had been 166 and 245 in the two previous weeks, declined again to 204 in the week under notice, and were 126 below the corrected average number in the corresponding period of the five years, 1902–06. The causes of 36, or 0·8 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, Leeds, Bristol, West Ham, Newcastle-on-Tyne, and in 50 other of the 76 towns; seven uncertified deaths were registered in Liverpool, four in Birmingham, three in Reading, three in Manchester, two in Bradford, and two in Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality, which had increased from from 13·2 to 16·4 per 1000 in the five preceding weeks, declined again to 15·3 per 1000 in the week ending Nov. 9th, but was 0·7 per 1000 above the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns last week ranged from 11·7 in Aberdeen and 13·1 in Edinburgh, to 17·5 in Leith and 19·0 in Greenock. The 530 deaths in these eight towns were 40 fewer than the number in the previous week, and included 74 which were referred to the principal epidemic diseases, against 61, 59, and 75 in the three preceding weeks. These 74 deaths were equal to an annual rate of 2·2 per 1000, which was 0·9 per 1000 above the mean rate last week from the principal epidemic diseases in the 76 large English towns; they included 29 from measles, 18 from diarrhœa, 14 from whooping-cough, five from diphtheria, five from "fever," and three from scarlet fever, but not any from small-pox. The fatal cases of measles, which had been eight, 16, and 32 in the three preceding weeks, declined again to 29 in the week under notice, and included 21 in Glasgow and six in Dundee. The deaths from diarrhœa, which had been 26, 20, and 17 in the three preceding weeks, rose last week to 18, of which six occurred in Glasgow, four in Dundee, three in Greenock, and two in Paisley. The five fatal cases of diphtheria showed a decline of four from the number in the previous week, and included three in Glasgow. The deaths from "fever," which had been five and six in the two preceding weeks, were five in the week under notice; they included one case of enteric fever and three of cerebro-spinal meningitis in Glasgow and one of cerebro-spinal meningitis in Edinburgh. The deaths in the eight towns referred to diseases of the respiratory system, including pneumonia, which rose from 51 to 90 in the four preceding weeks, further rose last week to 93, but were seven below the number in the corresponding period of last year. The causes of 11, or 2·1 per cent., of the deaths in these towns last week were not certified; in the 76 large English towns the proportion of uncertified deaths did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 19·1 and 20·1 per 1000 in the two preceding weeks, further rose to 22·8 per 1000 in the week ending Nov. 9th. During the first six weeks of the current quarter the death-rate has averaged 20·8 per 1000, the rates during the same period being 14·1 in London and 13·3 in Edinburgh. The 171 deaths of Dublin residents registered during the week under notice were 13 in excess of the number in the previous week, and included 12 which were referred to the principal epidemic diseases, against 19, 15, and 10 in the three preceding weeks; they included four which resulted from diarrhœa, and two each from scarlet fever, from diphtheria, from whooping-cough, and from "fever," but not any from small-pox. These 12 deaths were equal to an annual rate of 1·6 per 1000, the death-rates last week from the principal epidemic diseases being 1·3 in London and 0·5 in Edinburgh. The fatal cases of diarrhœa, which had been 23, 15, eight, and six in the four preceding weeks, further fell last week to four. The 171 deaths from all causes included 27 among children under one year of age and 43 among persons aged upwards of 60 years; the deaths of infants showed a considerable decline, but those of elderly persons slightly exceeded the number in the preceding week. Six inquest cases and six deaths from violence were registered; and 63, or 36·8 per cent., of the deaths occurred in public institutions. The causes of four, or 2·3 per cent., of the deaths in Dublin last week were not certified; in London the causes of all the deaths were duly certified, while in Edinburgh the proportion of uncertified deaths was 4·6 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following Staff-Surgeons have been promoted to the rank of Fleet-Surgeon in His Majesty's Fleet:—Alexander George William Bowen, Edward Cooper, Charles Samuel Facey, George Ley, William Ernest Marshall, Montague Louis Bouchier Rodd, Herbert Lloyd Penny, and Arthur Edward Kelsey (dated Nov. 11th).

The following appointments are notified:—Fleet-Surgeons: J. C. Wood to the *Europa*, on recommissioning, and G. G. Borrett to the *Edgar*. Staff-Surgeons: G. E. Macleod to the *Excellent*; F. F. Mahon to the *President*, additional, for three months' course at West London Hospital; and E. R. Grazebrook to the *Encounter*, on recommissioning. Surgeons: H. A. Browning to the *Encounter*, additional, and on recommissioning; E. F. Ellis to the *Europa*, on recommissioning; and T. Creaser to the *Warrior*.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Captains to be Majors (dated Oct. 29th, 1907): Ernest W. Bliss, Percy J. Probyn, D.S.O., and Arthur W. Hooper, D.S.O.

ARMY MEDICAL RESERVE.

Lieutenant Walter G. H. Cable is confirmed in that rank.

VOLUNTEER CORPS.

Royal Garrison Artillery (*Volunteers*):—1st Dorsetshire: Surgeon-Lieutenant T. Telfordsmith to be Surgeon-Captain (dated Sept. 9th, 1907).

Rifle: 2nd Tower Hamlets Volunteer Rifle Corps: Surgeon-Captain E. T. McDonnell resigns his commission (dated Oct. 12th, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Northern Command: Leeds Companies: Lieutenant H. J. Robson to be Captain (dated Sept. 19th, 1907).

PENSIONS AND COMPASSIONATE ALLOWANCES.

An Army Order, confirming a previous issue, has authorised the extension from two to seven years of the period within which the death of an officer or soldier from wounds or injuries received in the performance of military duty, or from disease contracted or commencing while on active service, must occur in order that his widow, children, or other dependent relatives, may be eligible for pension or compassionate allowances. This order is to include the whole of the period of the South African war, but no award will take effect from any date earlier than Oct. 1st, 1907.

Correspondence.

"Audi alteram partem."

THE REPRESENTATION OF THE MEDICAL FACULTY ON THE SENATE OF THE UNIVERSITY OF LONDON.

To the Editors of THE LANCET.

SIRS,—The letter from the authorities of St. George's Hospital Medical School which appeared in THE LANCET of Nov. 9th, p. 1346, calls for an answer from me. I do not remember any assurance being given that a "third centre" was to be erected in the immediate future in the near neighbourhood of the University or that we were told that the question as to whether any steps should be taken by the medical school depended upon our answer. Had I been aware that such a fundamental pledge was asked for I should almost certainly have remembered it. Further, the representatives of the medical school must have been aware that such a pledge could only be binding if endorsed by the Senate. No steps were taken by them to that end. I have before me a memorandum of what took place at the conference on April 6th, 1905, corrected and signed by one of their number. It is the only authentic record of the meeting agreed to by both sides. Neither in this nor in the agreement made between the University and the school is there the slightest reference to any such condition.

I have also looked through the voluminous correspondence which passed between us, and the only passage I can find in any way bearing upon the subject is in a letter from Dr. Latham, dated July 19th, 1905, in which he said: "In joining University and King's College we wish it to be clearly understood that we desire to have our students at a centre nearer to the University as soon as one is established."

It will be observed that this remark neither claims nor assumes that the University had bound itself to establish such a centre; and, as a matter of fact, in a letter written by me to Dr. Latham the next day I said, "It is so uncertain when the medical institute may be started at South Kensington that it is difficult to foresee what may happen." I venture, then, to assert that it was not a condition of the agreement between the University and St. George's Hospital Medical School that a "third centre" should be established at South Kensington. The exaction of such a pledge was not included in the formal record of the conference, signed by a representative of the school, nor was it included in the conditions of the agreement accepted by the school.

It appears to me that your correspondents are on the horns of a dilemma. A verbal pledge was either given or was not given. If it was not given, *cadit quæstio*. If it was given, why did they not insure its insertion among the other conditions set forth in the minutes of the conference and in the agreement with the University? It is to me incomprehensible why, if they believed a pledge had been asked and given, they did not take the only step which could make it binding. Our position, on the other hand, is simple and intelligible. We did not know that anything was being left out of the minutes and the agreement because we did not know that there was anything more to put in. The idea that a pledge had been given that a third centre would be erected in the immediate future in the near neighbourhood of the University never crossed my mind till the letter of April 22nd, 1907, to which your correspondents refer, was received. Had we been asked in unambiguous terms to give such a pledge I, for one, should certainly have refused.

I very much regret that a misunderstanding should have arisen with regard to negotiations which were throughout conducted in the most friendly spirit but in view of the above facts a charge of breach of faith cannot possibly be maintained against the Senate if it decides that under present conditions the centre cannot be established. I say this without prejudice to what the decision may be. The reply to the letter from St. George's Medical School, to which reference has been made, was postponed till the situation had become clearer, but I am sorry that, partly in consequence of this, the misunderstanding has been discussed in public instead of in private.

I am, Sirs, yours faithfully,
ARTHUR W. RÜCKER,
South Kensington, S.W., Nov. 12th, 1907. Principal.

To the Editors of THE LANCET.

SIRS,—We have stated that, in our opinion, the negotiations between this hospital and the University have left the University under the obligation of devoting the funds, collected for this specific purpose, to the establishment of an Institute of Medical Studies at South Kensington. Mr. F. C. Wallis, in a letter addressed to members of the faculty on Nov. 8th, expressed a contrary opinion and quoted an extract from a letter written by the Principal of the University. In this letter the Principal writes: "I have no recollection of making any pledge, either to the authorities of St. George's Hospital or to any one else, that the University would establish an Institute of Medical Studies at South Kensington." We did not ask for a pledge and we have never said that the Principal or anyone else gave us a pledge that the University was committed to the establishment of such an institute in every conceivable circumstance. What we have said is that we were assured that: (1) the University had adopted the establishment of such an institute as its settled policy; and (2) the University was appealing for money for this purpose.

No doubts as to the prosecution of this policy were expressed to us by the Principal or by any other representative of the University. We therefore regarded it, and still regard it, as a definite understanding that if sufficient money were collected the policy of the University would be carried out. The Principal further writes: "I am certain that had I been asked for such a pledge I should have replied that *it was the intention of the University to carry out the scheme provided, and provided only, that adequate funds could be raised.*"

We welcome this declaration from the Principal of the University, as it entirely confirms our contention. The authorities of the University were aware, before our negotiations were completed, that most of the schools wished to continue their own preliminary and intermediate teaching. Since that time there has been no essential change in the attitude of any school. The only question now is whether sufficient money has been collected to enable the University to carry out its policy. This question can only be answered in the affirmative.

A valuable site has been offered and over £70,000 collected, a sum adequate to build and to equip an institute of the size required by the schools which wish to take advantage of the University's offer and to leave from £20,000 to £30,000 for endowment. In view of this, the obligation of the University is clear, whilst those who urge the University to devote the money to other purposes appear to us to urge the University to repudiate its obligations.

We are, Sirs, yours faithfully,
A. WILLIAM WEST,
Treasurer of the Hospital.
ARTHUR LATHAM,
Formerly Dean of the Medical School.
FRANCIS JAFFREY,
Formerly Dean of the Medical School.
St. George's Hospital, S.W., Nov. 12th, 1907.

To the Editors of THE LANCET.

SIRS,—The leading article in the *British Medical Journal* of Nov. 9th contains the sentence "we do not understand how Dr. Waller comes to speak of provisions for research as the best portion of the scheme" (for the establishment of an Institute of Medical Science for the teaching of physics, chemistry, biology, anatomy, and physiology), and Dr. H. G. Turney writes in THE LANCET and in the *British Medical Journal* "that a policy which proposes to build an institute at which only research and higher teaching are to be carried on is an attempt to *pervert* funds from the object for which they were subscribed."

Space does not allow me to set forth at length a policy which was presented in the columns of the *British Medical Journal* some years ago (May 4th, 1901). I hope, however, that I may be permitted to explain briefly the point that the editor of that journal has not understood and that Dr. Turney has misunderstood. The original scheme, defective as it was, did contemplate provision for research. Both editions of the appeal by the Senate for funds to endow an Institute of Medical Sciences very properly included "research" among the objects of the proposed institute; the second edition contained the following paragraph:—

The Physiological Laboratory for advanced students established in the University in February, 1902, has now passed out of its experimental

stage. As shown by the annual reports to the Senate, the laboratory has fulfilled its purpose as a post-graduate school of research, and teaching is now sufficiently developed to afford suitable working facilities in branches of physiology that are common to the Faculties of Science and Medicine. The work of the laboratory will be continued, and the laboratory will thus constitute a research department in association with the Institute of Medical Sciences.

I can assure you that my proposal to utilise the best portion of the scheme, so far from being an attempt to pervert funds from the object for which they were subscribed, is, in my opinion, the last remaining means of preserving to the medical schools of London an Institute of Medical Science on the valuable plot of land that the University is still entitled to claim on their behalf. And obviously I do not dream of proposing what certainly is a fundamental modification of the original scheme without also proposing to refer again to original subscribers and trustees, of whom few or many or all or none might withdraw their support from the modified scheme. Whether a "modified" scheme is to be regarded as an amendment or as a direct negative of the original scheme is at present an open question.

May I be permitted to repeat the concluding paragraph of the statement of policy published by me in the columns of the *British Medical Journal* more than six years ago (May 4th, 1901):—

> At the present juncture a sum of £50,000 would be more than sufficient to provide for an efficient central institute that should be the organ of research and of advanced teaching, and the *école normale* by which teaching in the medical schools would be fashioned and coördinated.

Much water has flowed under the bridge since that was written. The policy, then untried, has now been on trial for five years, and, although on a small scale and hidden under the bushel of concentration, it has so far proved successful. What the future may be depends in large measure on the opinion of the Faculty of Medicine of the University.

I am, Sirs, yours faithfully,

A. D. WALLER.

Physiological Laboratory, University of London, Nov. 11th, 1907.

To the Editors of THE LANCET.

SIRS,—I would ask why the University should build and equip an institute at South Kensington for St. George's and St. Thomas's when the other hospitals which have built and made successful their science schools have to maintain them unaided by Government or University grants. The Preliminary Scientific students (1906–07 University Calendar) of St. George's number two, of St. Thomas's seven. Is the University to build and equip an institute for these nine? If the nine stay two years and are charged £20 a year the University may expect an income of £360 a year! Even if Middlesex joined in with its entry of 13 or 15 University students the proposal is a preposterous one.

Do St. George's and St. Thomas's propose that the University should prepare students for the examinations of the Conjoint Board? Are the large hospital schools so simple as to believe that such an institute with an entry of 9–23 will not try to expand, and, aided by University endowment, attract students away from them? The University must adequately pay the professors of such an institute, say, at the rate of: zoologist, £300; botanist, £300; chemist, £500; physiologist, £500; anatomist, £500. This means an expenditure of over £2000, excluding demonstrators, servants, and upkeep. Do St. George's and St. Thomas's schools think it just that the University should pay some £3000 a year and spend £70,000 in building on the site worth £70,000 for their nine students who will give the University an annual income of £360?

Are St. George's and St. Thomas's Schools prepared to pay to the University the difference plus the interest on the capital sunk, or do they expect the other schools to see them endowed to this extent in order that a pledge may be fulfilled which does not exist? The delegates who gave the supposed pledge to St. George's had neither the power nor the right to speak in the name of the University. The Principal of the University repudiates the existence of any such pledge. Let St. George's produce the minutes of the Senate wherein is chronicled the appointing of these delegates and the nature of the pledge which they gave. The teaching institute is out of the question; let us accept the Research Institute, the only possible way of saving the Beit donation and the site.

The total number of University students at Guy's, St. Bartholomew's, "The London," and St. Mary's is 634 (Calendar 1906–07). At University and King's Colleges 165. Why have these two colleges resolutely and persistently fought for the institute at South Kensington against the unanimous wishes of the four great hospital schools? Do not these numbers point the way to an answer? University and King's Colleges have been the apostles of incorporation. While preaching incorporation they have sought endowments not for the University at large but for themselves, and to exert an influence upon medical education not commensurate with their real importance. Professor Starling avows himself to be an apostle of incorporation. Mr. Wallis points out that University College and Hospital have already six direct representatives on the Senate. Their power, direct and indirect, is, in my opinion, a present menace to the free development of the University on broad and equable lines. The time of the Senate has for the last six years been sacrificed largely to the fetish "incorporation" and to the vain struggle after bureaucratic power.

Professor Starling preaches another doctrine which I have at heart—the adaptation of the preliminary science teaching to the special needs of medical education. At the same time, he asks that these sciences should be taught in institutes divorced from contact with clinical medicine and placed under university control. In my opinion the great opportunity of medical educationalists in London lies in the intimate association of the clinical and science sides at the medical schools. The crystallisation of the present system into university institutes with vested interests, controlled by men of science separated both in sympathy and aim from clinical work, is the worst thing that could happen to medical education in London. I look forward to seeing the scientific and clinical training interwoven throughout the whole five years' curriculum, and the present practice of preparing the students for examinations in isolated departments replaced by a saner course of instruction.

I am, Sirs, yours faithfully,

LEONARD HILL.

The London Hospital Medical College, Nov. 12th, 1907.

P.S.—The University has an institute, ample in equipment and endowment, ready for such schools as wish to concentrate—namely, University College. The Preliminary Scientific Class (Calendar 1906–07) numbers ten at this institute, so there is ample room there. The professors are eminent and highly paid, the two qualities demanded by the supporters of the South Kensington Institute scheme. A new physiological laboratory is to be built there at the cost of £10,000. This institute is separated from University College Hospital not only by a roadway but by the authority of the University.

To the Editors of THE LANCET.

SIRS,—Dr. Waller is concerned for the continuance of provision for physiological research in the University of London at South Kensington. In this he has the sympathy of myself as of all others who are interested in the scientific advancement of medicine. I believe that the scheme for a small teaching institute of medical studies at South Kensington, if carried out, would double the efficiency of the laboratory over which Dr. Waller presides, by bringing it into touch with the allied medical sciences, and by providing it with workers whose faculties and interest were continually stimulated by contact with young and inquiring minds. The institute which I contemplate would not be worthy of the University did it not regard research as an essential part of its functions.

I am, Sirs, yours faithfully,

ERNEST H. STARLING.

University College, Gower-street, W.C., Nov. 13th, 1907.

To the Editors of THE LANCET.

SIRS,—I think many members of the Faculty of Medicine who have followed the literature issued during the present Senatorial contest must, like myself, regret the tone of some of the letters and such charges as "repudiation of obligations," "underhand methods," "deliberate invention," &c.

Professor Starling's contribution to your last issue seems to me particularly regrettable. Apparently a quotation from a private letter reached Professor Starling at third or fourth hand. It is alleged to have been "written by a member of the Senate," but Professor Starling states that he "does not know the name of the author." Is he sure that he has not been

imposed upon and may not the authorship be totally different from that which he assumes? The delay which has occurred in carrying out the negotiations for the incorporation of the London School of Medicine for Women, and which Professor Starling himself styles "discreditable," has no doubt led to many surmises, of one of which this quotation may be a far-off reflection. Such a surmise may quite naturally have been based on the fact that a large representation of University College is found to exist on the committee which deals with the incorporation of the London School of Medicine for Women. But on such slender evidence as he appears to possess, reaching him in such devious ways, Professor Starling is surely unjustified in rushing into print with vague charges of "underhand methods" and a general challenge to the Senate.

A further instance of hasty recrimination is afforded by some paragraphs of the letter from certain members of St. George's Hospital which follows the communication which I have just mentioned and in which the candidates opposing Professor Starling are accused by implication of "urging the University to repudiate its obligations," and a statement in Mr. Wallis's address is bluntly characterised as "incorrect." Mr. Wallis has since issued a circular to the Faculty in which he produces incontestable evidence of the accuracy of his statement, based as it appears to have been on previous inquiry. Surely it was equally open to Professor Starling, who, in his election address, states that "the University is in honour bound" "by agreements with certain medical schools," and to the signatories of the St. George's letter, who make these serious charges of "repudiation of obligations," to ascertain the facts before publishing these accusations. Is it too much to hope that in future contests in the Medical Faculty the candidates will be content with a clear exposition of their policies and will avoid an acrimonious tone.

I am, Sirs, yours faithfully,

London, W., Nov. 11th, 1907. JUSTITIA.

POST-OPERATIVE LOCAL INFECTION IN CANCER AND TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—In a communication published in THE LANCET of last week Mr. Charles Ryall has drawn attention to the danger of infection with carcinoma in operations performed for the relief of the condition. Every surgeon must have met with cases of rapid local recurrences of the disease after operation and the disappointment they cause. There can be little doubt that in most instances the explanation of post-operative local infection given by Mr. Ryall is the correct one. And in this connexion, which is yet but imperfectly appreciated, carcinoma presents a great similarity to tuberculosis. In 1905 Mr. L. S. Dudgeon and I read a paper to the Clinical Society on Post-operative Local Tuberculous Infection, which was printed in the Transactions and also in the *Clinical Journal*, 1905, pp. 206–208. In this communication we drew attention to the local tuberculous infection of healthy tissues which not infrequently resulted from operations undertaken for the eradication of tuberculous lesions, such as "glands" of the neck, arthrectomies of joints, &c. As imperfect operations, such as erasions, are taught to be good practical surgery for tuberculosis and not for carcinoma, it follows naturally that post-operative local tuberculous infection is, and must be, a great deal more frequent than post-operative local carcinomatous infection. Yet, as Mr. Ryall, Mr. Dudgeon, and myself have urged, medical men have not yet appreciated the fact that the operation is itself responsible for the dissemination of the disease by its local infection. Theoretically, the surgeons are responsible for post-operative local infections, and doubtless in many instances they are. But practically, local infections, at the time microscopic, may not be their fault. It is a risk, a small one in competent hands, that the patient must take when undergoing an operation for carcinoma or tuberculosis. These local infections are not secondary metastatic growths in the ordinary sense of the word, and if recognised early need not of necessity affect the prospect of metastatic and fatal recurrences, provided that they are quickly and freely removed.

Recognising that post-operative local infection can occur without necessary incompetence on the part of the surgeon or medical man, it is desirable that every such operation area should be examined by the medical attendant from time to time; for instance, at first every fortnight, then every month, then two months, and so on, the intervals becoming longer and longer and all suspicious nodules and thickenings being excised. In this way local infections are removed at once and not allowed to linger until they have done harm.

I am, Sirs, yours faithfully,

Harley-street, W., Nov. 9th, 1907. EDRED M. CORNER.

RICE AND BERI-BERI.

To the Editors of THE LANCET.

SIRS,—Your number of June 29th, 1907, contains an article on Rice and Beri-beri by Dr. William Fletcher. His very interesting experiments are a confirmation of my own made in Cochin-China in 1898 and described in a pamphlet published by Baillière (Paris) in 1905.

My opinion was that rice is the great factor of beri-beri, being the medium wherein the pathogenic bacteria grow, but I found out that fresh, cured, and "red" rice—i.e., rice with its perisperm on) were equally harmless in spreading beri-beri, the reason being that the bacteria were killed in asepticised or cured rice, it has not the time to grow on fresh rice and it cannot grow on the red kind. This pamphlet was duly sent to THE LANCET and acknowledged under the heading, "Books, &c., Received." I know enough of the British love of fair play to feel sure that you will consider my claim to priority and be kind enough to insert this letter in your valuable paper, and believe me, yours very truly,

DR. DUBRUEL DE BROGLIO.

CHANCRE OF THE CERVIX.

To the Editors of THE LANCET.

SIRS,—In the course of your review of Dr. F. J. McCann's "Cancer of the Womb,"[1] I notice the following: "We are told that a hard chancre on the cervix is not rare; this statement is not supported by any proof and is contrary to the experience of most gynæcologists, at any rate at that period of life in women at which cancer usually affects the cervix." In my "Differential Diagnosis of Syphilitic and Non-syphilitic Affections of the Skin" I wrote that, "as to the cervix it is an error to suppose that the chancre is very rare in this situation. On the continent, where women are examined more thoroughly than is the case with us, it is not uncommon, so that an examination with a speculum in a good light should not be neglected if it can possibly be managed when necessity arises." I am therefore in agreement with Dr. McCann's general statement. With regard to your reviewer's qualification as to the age period of cancer of the cervix there is something in that, but it may be remarked that a chancre of the cervix may, of course, occur at any age. I should like to refer to what Fournier says in his "Syphilis chez la Femme" (second edition, 1881, p. 53):—

Le chancre du col passe pour une rareté pathologique. M. Clerc, dans sa statistique, n'en mentionne qu'un seul cas sur un total de 113 chancres de diverses régions. M. Carrier ne le cite même pas dans la sienne. Les traités de gynécologie s'en préoccupent à peine, et certains même le passent sous silence. Bref, de l'aveu général le chancre utérin serait une lésion véritablement exceptionnelle. Je proteste énergiquement pour ma part et contre ces statistiques et contre cette croyance commune. Si je consulte en effet mes souvenirs, je suis bien certain d'avoir rencontré le chancre utérin d'une façon assez fréquente. Et si je m'en rapporte à mes notes, je trouve, sur un total de 249 chancres génitaux, 13 cas de chancres du col; ce qui donne une proportion d'un chancre du col contre 18 chancres d'autres régions.

In his list (p. 52) primary chancre of the cervix uteri comes fourth, viz.:—

	Cases.		Cases.
Labia majora	114	Vestibulum vaginæ	9
Labia minora	55	Urethra	7
Fourchette	38	Superior commissure of vulva	2
Cervix uteri	13	Vagina proper	(?) 1
Clitoridean region	10		

In Ricord's Atlas (1851), Plate V., there is an instructive case of chancre of the cervix discovered by Ricord, notwithstanding the fact that another medical man who had examined the patient positively asserted there was no sign whatever of syphilis about her. Ricord wittily remarks:—

Que d'erreurs de ce genre avant que je n'eusse vulgarisé l'emploi du spéculum dans l'étude des maladies vénériennes! Que d'erreurs

[1] THE LANCET, Oct. 12th, 1907, p. 1027.

commettent encore ceux qui préfèrent baser leur science sur des *histoires* racontées par les malades, plutôt que d'aller chercher la vérité un peu plus *profondément!*

I would take this opportunity of calling attention to a suggestive paper by Franceschini: "L'Origine Syphilitique de quelques Cancers Utérins (contribution à la Pathogénie et à la Prophylaxie du Cancer de l'Utérus)" in *Les Annales des Maladies Vénériennes* (November, 1906, pp. 24–292).

I am, Sirs, yours faithfully,

London, W., Nov. 8th, 1907. GEORGE PERNET.

THE NEEDS OF LONDON MEDICAL STUDENTS.

To the Editors of THE LANCET.

SIRS,—The correspondence appearing on this subject is of great interest and I fancy that Dr. A. Percy Allan is right. I have the highest admiration for the University of London but personally I have nothing to do with it, and if I can interpret the views of general practitioners aright they have no more desire to be tacked on to the University than I have. What they want is something far different and what the Conjoint Board can at any time help them to obtain.

During the past 25 years thousands of able men have passed through the London hospitals. They have qualified as physicians and surgeons after five years' work and they are all registered medical practitioners. In other words, they are "doctors," and all they require is recognition of that fact in order that the British public may know that they are by training and experience right and proper persons to apply to when necessary. Why has not this been done years ago? The general practitioner does not yet recognise his own power or the happy effects of combination. If he did this matter would soon be set right. As a first move I offer the following suggestion. When sending a patient to the consulting physician or surgeon let the practitioner ask one question of his colleague: "What are you doing to help to secure my right of recognition as a doctor?" Upon the answer received his future course of action will be determined. I heartily endorse Dr Bertram Abrahams's statement, "It is a scandal that an examination of the standard of the Conjoint Board final should not entitle a successful candidate to be called, except by courtesy, Doctor." And as he initiated this correspondence I offer him an apology for wandering off in another direction, concluding with the observation that when the general practitioners take action—united action—"The Needs of London Medical Students" will soon be rectified, and not until then.

I am, Sirs, yours faithfully,

R. DENISON PEDLEY, F.R.C.S. Edin., L.D.S. Eng.

London Bridge, S.E., Nov. 11th, 1907.

*** All medical men should try to help that section of the University of London which is endeavouring to meet the want of a medical degree for London students which can be obtained upon fair terms.—ED. L.

To the Editors of THE LANCET.

SIRS,—I have followed the correspondence which has appeared in your columns concerning the needs of London medical students with great interest, and as a "Conjoint" man have rejoiced at the fact that there is a certain amount of commotion in the camp concerning the conferring of an "M.D." degree upon us. Sir William Gowers has suggested that the London University should come to the rescue and blot out this stigma which rests upon us. But why should the London University do it? The London University is, to all intents and purposes, an examining board, so is the Conjoint Board; but the University gives its graduates an M.B. and an M.D., which speaks in their favour in practice and against us. Why has not the Conjoint Board enough stamina and pluck to come forth and grant us an M.B. or M.D.? It is inexplicable. Surely it is high time for this Board to do something in this respect and to shake off this old-world conservatism, which is detrimental both to the Board and to its members. The Conjoint Final stands to day amongst the profession as a hall-mark of a good, sound qualification, and is not inferior to the degrees granted by provincial universities, but the public are unaware of it, and will remain so until a degree is given us. Lately, a high authority, such as Professor W. Osler, said in a speech that he deeply regretted that London medical students have to go without their M.D.'s, but the Conjoint Board does not seem to regret it one iota. How long are we going to stand this injustice? I am, Sirs, yours faithfully,

Nov. 12th, 1907. A CONJOINT MAN.

A PROTEST.

To the Editors of THE LANCET.

SIRS,—Only a few weeks ago my name was mentioned in the daily press in connexion with the trivial ailment of a distinguished personage, and yesterday again I found to my extreme regret that a private visit I had paid to an old acquaintance had been utilised to inform the world that I had gone to Windsor Castle. The two instances just named do not stand alone. For years past I have from time to time read in the papers that I had been going north, or that I had been seen at the first night of a theatre, or that I had been in attendance on some illustrious personage or other, statements which often enough were amplified with cullings about my career from "Who's Who," &c., &c.

It needs no assurance for those who know me that never in my life have I been a party, directly or indirectly, to statements of such an advertising character, but, knowing the world, I foresee the danger that if they are repeated time after time even well-meaning people will at last begin to shake their heads and to think that it could hardly be accidental that it was always the same member of the profession whose name was thus brought before the public. Hitherto I have been silent, or have at the utmost requested in private letters the editors of some of the papers which have bestowed upon me so unenviable and undesired a notoriety to abstain from mentioning my name in future in their papers. One knows but too well that if one writes a public disclaimer unkind persons are inclined to interpret this in the sense that, not satisfied with the puff primary, one is adding of one's own accord the puff secondary.

Now, however, that the nuisance has become really intolerable, I wish to state once for all that I most strongly object to the mentioning of my name in the lay press, and that if I knew a way to discountenance the unwelcome attentions of reporters I would gladly avail myself of it.

I am, Sirs, yours faithfully,

Wimpole-street, W., Nov. 13th, 1907. FELIX SEMON.

WEIGHTS AND MEASURES.

To the Editors of THE LANCET.

SIRS,—In reading any modern text-book of medicine or pathology most practitioners must be continuously tortured by reading of grammes, litres, &c. Of these most of us *as practitioners* can think but vaguely; we have no practice with them and so our conceptions of them are but poor. Why, then, not immediately resolve to amend the absurd position of thinking (or trying to think) in grammes and dispensing in grains? If grammes are better than grains and litres than pints why not once for all discard these latter and so secure a peace of mind and demonstrate our common sense? I am, Sirs, yours faithfully,

Nov. 11th, 1907. A PRACTITIONER.

UNIVERSITY OF OXFORD.—The Master and Fellows of University College have reported to the Vice-Chancellor that they have awarded the Radcliffe Prize for 1907 to Dr. Arthur Edwin Boycott, Fellow of Brasenose College. The examiners reported that the work of Dr. Alexander George Gibson, Christ Church, entitled him to honourable mention.—During and after Trinity term, 1908, in addition to the certificates already required for the second examination for the degree of B.M., every candidate must also produce a certificate (No. 11) showing that he has attended a course of practical instruction in the administration of anæsthetics in a hospital approved by the Medical Board.—In a congregation held on Nov. 9th the names of the following gentlemen were submitted to the House as examiners in medicine: In human anatomy, A. H. Young, M.B. Edin.; in physiology, J. S. Edkins, M.B Camb.; in pathology, E. W. A. Walker, D.M., Fellow of University College; in forensic medicine and public health, T. M. Legge, D.M., Trinity College; in medicine, J. R. Bradford, M.D. Lond.; in surgery, Howard Marsh, M.A., M.C. Cantab.; and in obstetrics, J. W. Eden, M.D. Edin.—The degree days in the present term are Thursday, Nov. 28th (at 10 A.M.); and Thursday, Dec. 5th (at 10 A.M.).

NOTES UPON HEALTH RESORTS.

JAMAICA AS A HEALTH RESORT.

(BY OUR SPECIAL COMMISSIONER.)

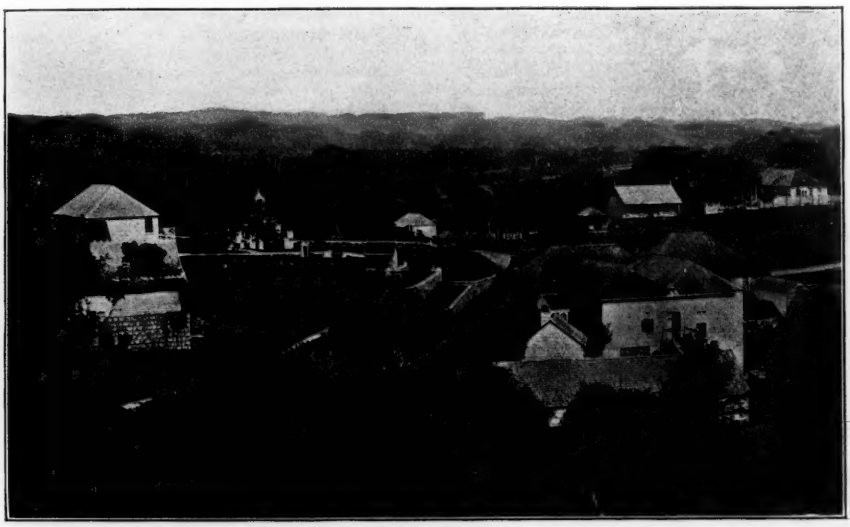
III.[1]

THE JAMAICAN UPLANDS.—MANDEVILLE.—MALVERN AND THE SANTA CRUZ MOUNTAINS.—THE BLUE MOUNTAINS.

THE line from Montego Bay passes through Montpelier, a station some 12 miles from the coast situated high above sea level amidst beautiful country and furnished with a hotel of which I heard satisfactory reports, although as it is only open during the winter season I did not visit it but proceeded in the train through the wild region known as the Cockpit country, along a winding track hanging on the sides of the steep hills, until a journey of over four and a half hours brought me to Williamsfield, and by a further uphill climb of five miles in a buggy I arrived at Mandeville, the most popular of the hill stations in Jamaica. Mandeville, which stands 2200 feet above sea level, is a quaint little town with a very English-looking church and village green but a native market that is typically Jamaican. There is quite a large colony of white people living near the place and any English visitor stopping there is sure to spend a pleasant time if he be at all socially minded, and if he be as fortunate as your commissioner (who is glad of this opportunity to acknowledge his special indebtedness to Dr. George Cooke) he will meet with such open-handed hospitality as is conspicuous even in Jamaica. There are some very fair unpretentious private hotels perched on the hills around, at one of which I stayed. The Mandeville Hotel itself is built in a hollow, though I heard from visitors that it was comfortable and well managed. The sanitation in the town is on a good level for Jamaica; the water-supply is from tanks and at the time of my visit it was low after the drought. There is a capital club-house with an adjoining golf-links which has a fair grass course but somewhat too "sporting" greens. Polo is available in the district and there is beautiful country for driving or riding in every direction. Mandeville is a regular resort for dwellers in the plains who have had malaria or other illness and its air is bracing and invigorating, although at the time of my visit it was a little too hot. In the winter the climate approaches that of fine summer weather in England, the average range of temperature being from about 75° F. at mid-day to 60°, or even a few points lower, at night. In the summer the thermometer may show over 80° but the heat does not seem really oppressive in that upland air. There is one disadvantage: the place is damp and in the evenings of my stay white rivers of mist were always rolling along the valleys. For this reason patients suffering from rheumatism or pulmonary complaints would be better advised to visit the Santa Cruz mountains farther to the west, if they do not stay on the dry seaboard which has already been described. Many medical men who have visited the Santa Cruz range have been impressed with the fineness and dryness of its climate, so after staying some days in Mandeville I drove on to Malvern, nearly 30 miles by road.

Malvern occupies a situation specially devised by nature to insure a dry atmosphere. It is perched 2300 feet up on the top of a mountain ridge with a wide plain on each side of it, to seaward the Pedro and Black river plains, beyond which stretches the sea bounding the south-west coast of Jamaica and to landward the great hot plain or savannah of St. Elizabeth, bounded on its eastern side by the fine range of hills over which I had journeyed from Mandeville. The consequence is that every wind that reaches Malvern—and there are plenty—sweeps in over a hot plain which effectually ensures that the extraordinarily bracing quality of its mountain air is untainted by any dampness. There are two great drawbacks to the development of Malvern—the difficulty of access and the imperfect accommodation for visitors, especially for invalids. My method of reaching it from Mandeville over the Manchester mountain, across St. Elizabeth Plain and up Unity Hill in the Santa Cruz range is not the shortest for the traveller from Kingston, who can proceed by railway to Balaclava, there stay for the night, and drive only 22 miles to Malvern next day.[2] The writer was fortunate in his horses, but such is not the case with every visitor and it is well to inquire as to the most trustworthy liveryman from whom to hire before undertaking the journey. The roads are remarkably fine, the gradients being arranged so that good horses can trot nearly all the way, and the route is through varied scenery. The journey is such as could be well sustained by any invalid who could take a 20-mile drive in England. Unfortunately it is impossible to speak highly of the accommodation for visitors

FIG. 1.



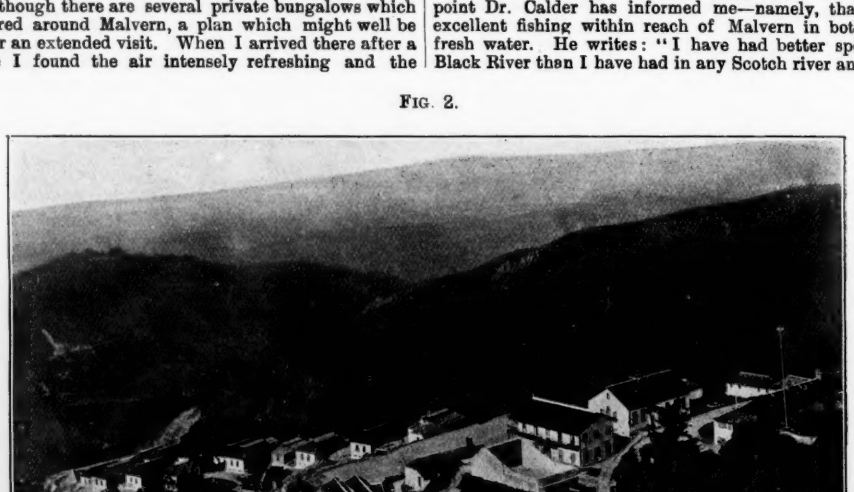
Mandeville. (From a photograph by H. S. Duperly, Kingston.)

[1] Nos. I and II. were published in THE LANCET of Oct. 5th (p. 985) and 26th, 1907 (p. 1193), respectively.

[2] A map of Jamaica was printed in Article II. of this series (THE LANCET, Oct. 26th, 1907, p. 1194).

at Malvern. The rooms were rough, the beds were hard, and the dietary was monotonous, although the proprietors of the house where I stayed did their utmost to make their guests comfortable with the means at hand, and the service was good. I feel sure that if the excellence of the Malvern climate were more generally known it would amply repay an enterprising capitalist to convert one of the existing boarding-houses into a really first-class hotel. The arrangements for the water-supply of the house where I stopped are a cedar-shingle roof catchment, which was quite cleanly, with a cement gutter leading from it to a large reservoir of the same material, which was uncovered, and contained water thickly coated with duckweed. The water was not boiled but was put through a "dripstone" before it was drunk, a process which is common in Jamaica and which will be discussed in a future article. The sanitary arrangements were distinctly unsatisfactory and although a healthy person could spend a very enjoyable time in such a house, it would not be a fit place for a delicate invalid without substantial improvements. I was informed that it was a fair sample of the public accommodation in the district, although there are several private bungalows which may be hired around Malvern, a plan which might well be adopted for an extended visit. When I arrived there after a long drive I found the air intensely refreshing and the district medical officer, has kindly given me further facts about the district. The average temperature for ten years was: maximum, 72°; minimum, 63°, the thermometer more often standing at nearer 70° than 60°, although on a few cold nights it may fall to 50° or even 2° or 3° lower. Dr. Calder has known it to be 45° on one night. It is rare to have six completely clouded days in the year. With regard to the health of the district there is no endemicity of any disease, although a few cases of typhoid fever occur. Malaria is absent in both summer and winter and Dr. Calder has never seen the anopheles mosquito in the Santa Cruz Mountains. The non-malarious culicides in normal seasons are absent or very rare, except for the small mosquito in the woods; after a drought and with the first rains the larger mosquitoes occur in crops, disappearing, however, in two or three months. The average annual rainfall for five years was 55½ inches, and from December to April no rains fall except a few light showers about the beginning of January and occasionally there is a "Scotch mist" about Christmas time. The winds are north-easterly to north and, as has been said, they are dry and bracing but do not strike cold. On one other point Dr. Calder has informed me—namely, that there is excellent fishing within reach of Malvern in both sea and fresh water. He writes: "I have had better sport in the Black River than I have had in any Scotch river and fish are

FIG. 2.



Newcastle. (From a photograph by H. S. Duperly, Kingston.

next day, although in one of the hottest months of the year, I was able to work steadily for five hours and then to take an up-hill five-mile walk with no undue fatigue. The sense of well-being imparted by the dry breezes of the Santa Cruz Mountains must be felt to be believed and a sanatorium for pulmonary tuberculosis in Malvern would have climatic conditions that it would be hard to find surpassed in Europe. The great complaint made by Jamaicans about Malvern is that there is nothing to do there. Social opportunities are certainly very few but for a man content to sit down quietly in a district where nature shows her most gracious moods, far away from "civilisation," for the botanist, entomologist, or geologist, for the painter or writer seeking a quiet corner in which to work undisturbed, above all for the town-wearied neurasthenic, Malvern can offer a beautiful and health-giving environment. The prospects over mountains and plains and sea are entirely satisfying and the natural attractions may some day be supplemented by a golf course, for there is in Malvern an overgrown area which once had that title and which is not yet beyond hope of redemption. The subsoil of Malvern is a very porous marl and to its dryness I can testify, as after walking for an hour in a steady September shower the ground was nearly dry underfoot and there was no trace of mud. Dr. J. A. L. Calder, very abundant, but there are the usual local conditions and knowledge that must be overcome and obtained, which would soon be done by a *bonâ-fide* angler." A good idea of the climate is given by the clothing usually worn in the Santa Cruz Mountains. "Light English tweeds—heavy tweeds would be comfortable, perhaps, two days in the year—thin merino underclothing, and linen shirt; an alpaca jacket may generally replace a tweed coat, and for a few days in winter woollen clothing is required."

The food supply will have to be improved before the Santa Cruz Mountains attract many more visitors; tough chickens are too often provided in place of good fresh meat; the butter and bread are good; indeed, most of the local milk is made into butter, and fresh milk cannot always be obtained unless ordered. There are no disadvantages, however, in Malvern, except its distance from the railway, that a judicious outlay of money and an enterprising and energetic scheme for its development could not overcome, and its climate is undoubtedly one that renders it suitable to become the chief health resort of the Jamaican uplands. There are, of course, many other settlements in the Santa Cruz Mountains which might equally be developed, but my visit was naturally made to a place which has already earned a reputation throughout the island for the excellence of its

climate, and which even in its undeveloped state attracts visitors from the plains as well as tourists from England and America. When I had left Malvern I travelled back to Kingston, picking up the train at Williamsfield, after breaking my journey again at Mandeville and also visiting the Milk River mineral bath which will be described in a future article.

This account of your commissioner's itinerary must conclude with a description of yet another different district, and one which in many ways is the most beautiful in Jamaica, although adapted for the lives of strong and active people rather than for invalids. This district is in the Blue Mountains, the magnificent range which runs from behind Kingston to the east of the island. Dwelling-houses are scattered on the steep sides of these mountains at elevations of from 1000 to 5000 feet above sea level, and a few of the coffee plantations on the highest slopes are placed even higher. There is one settlement, Newcastle, which stands 3800 feet up, crowning a rounded peak, and which was formerly a hill station for British troops but is at present nearly deserted. It was through Newcastle to the top of St. Catherine's Peak, 1800 feet higher, that I journeyed to find what attractions the Blue Mountains might afford. There are two ways of reaching Newcastle—by an extraordinary driving road cut in the side of the mountain and winding slowly upwards, or by a bridle path on the back of a mountain pony the surefootedness of which is entirely to be relied on, such as can readily be obtained at Constant Spring or Gordon Town, from which point the climb proper is begun. The ride is first through deep valleys and then the path winds upwards above luxuriantly grown gorges, with mountain streams coursing down them (save in time of drought), rising in a continuous zigzag to the sun-steeped levels above, bordered all along its course by groves of mango, orange, breadfruit, and a hundred other trees and a riotous profusion of "bush" growth. By the time Newcastle is reached and a halt made a magnificent view of the plain of Liguanea, Kingston, and its harbour is obtained, and the traveller has reached an air intensely refreshing after that of the heated plain below, at least such was my experience on a hot day in September. When the climb is resumed up the bridle path, which above Newcastle forms the only means of ascent, the freshness and lightness increase as each new level is gained, whilst on this particular peak of St. Catherine the path is closely bordered with groves of giant tree ferns and bamboos, with long stretches of wild ginger and masses of flowering begonias and orchids, and the eye is often further greeted with the great scarlet blossoms of hibiscus bushes and here and there an exquisite humming bird hovering at one of those regal flowers. It is a veritable fairyland, and through the gaps of this luxuriant screen of glistening foliage broader views of the hills and plains below open at every turn until the summit is reached, when the sea on each side of the island breaks out if the traveller's view is not obscured by clouds. The fascination of these mountain heights is irresistible, a fact to which their inhabitants bear testimony, and the air is literally stimulant, or rather tonic, in its effects. The visitor can ramble up and down the paths amidst scenes of ever-changing beauty and often of exceeding grandeur with an entire absence of fatigue, even under a bright sun; indeed, so cool may the winter evenings be that more than one living-room in the Blue Mountains has a fireplace—a thing unknown in the plains. At present, unless the visitor be lucky enough to stay with friends in the mountains or can make arrangements to lodge in a planter's house he will find very little accommodation for a visit to these heights. It seems a pity that Newcastle, with its unique situation, bracing air, and the good driving road by which it may be reached, should be but a deserted group of cantonments. It would make a capital site for a sanatorium and if some enterprising hotel promoter were to build a comfortable resting place for visitors here he might well find that not only strangers would patronise him but many workers in Kingston would gladly escape in the summer months for a week end in the cool, clean air of the Blue Mountains. There are doubtless many other places in the range where a similar enterprise might succeed, but Newcastle has the advantage of the driving road from Kingston; the Blue Mountains can, indeed, afford finer views, such as that down the broad immensity of the Yallas Valley which I was fortunate enough to see when visiting another peak in the range. It is noteworthy that on the steepest heights in these regions the sensation of giddiness is rare, or if felt soon passes off, which is probably attributable to the bracing properties of the air. The Blue Mountains have a further resource which, although formerly developed to some extent, has been allowed to fall into neglect. This is a chalybeate spring at Silver Hill, the waters of which are extremely rich in iron, containing 8·33 grains of sulphate of iron and 1·74 grains of sulphate of magnesium to the pint, with 0·34 grain of sulphate of sodium. It is obvious that such a natural supply of mistura ferri laxativa situated amidst fine scenery and splendid air at an elevation of 3500 feet affords an excellent opportunity for the erection of a new Jamaica Spa that might eclipse its predecessor which has been allowed to decay through sheer neglect of natural opportunity.

R.M.S. *Port Kingston*, Oct. 2nd.

THE CONGRESS OF THE GERMAN UROLOGICAL SOCIETY.

(FROM OUR VIENNA CORRESPONDENT.)

THE first Congress of the newly-formed German Urological Society, in which are combined the former small urological associations of German-speaking medical men in Austria and Germany, took place in Vienna from Oct. 2nd to 5th. The meeting was very successful and the society is to be congratulated both on the large attendance of members and on the excellence of the papers which were read. The Congress was opened by the Archduke Rainer, and each day the presidential chair was taken by different medical men, the complete list being Professor von Frisch, Professor Zuckerkandl, Dr. Posner, Dr. Küster, Dr. Barth, and Dr. Casper. The foreign visitors included representatives of the urological societies of France, Italy, and America. On the first day the meetings took place in the great hall of the University, which is admirably suited for such an occasion. The remainder of the meetings were held in the hall of the Gesellschaft der Aerzte which accommodates 500 persons and is very convenient for demonstrations and lectures. In the discussions following the reading of the various papers the speakers were not urologists only, for representatives of other branches of medicine, such as gynæcologists, dermatologists, and general surgeons and physicians, often took part.

As regards the social side of the Congress the entertainments provided by the organising committee were most enjoyable and must have convinced the visitors, both ladies and gentlemen, that social hospitality is well understood in the Austrian capital. The first banquet was given by the Minister of Education who in a speech dealing with the specialisation caused by the development of the art of medicine touched a very important question. He said that the Government had the welfare of the medical profession at heart and that the creation of a chair of urology was being considered. The municipality of Vienna also gave a magnificent reception which was attended by almost all the members of the congress. The burgomaster, who said that he had himself been under the care of a urologist for some time, delivered a humorous speech in which he commended the achievements of modern medicine and expressed the hope that all patients would be treated as skilfully and as successfully as he had been. The last day of the Congress, after the papers had been read and all discussions closed, was devoted to excursions by coaches and motor-cars in the beautiful country surrounding Vienna. The weather was splendid and the programme included visits to the Semmering, the imperial palace in Laxenburg, and the Kahlenberg. The farewell banquet was given by the Gesellschaft der Aerzte in whose great hall the meetings of the Congress had been held. This festivity had a professional aspect as only medical guests were present.

In the medical work of the Congress a wise restriction of the number of papers was exercised by entrusting special questions to speakers who gave a lucid picture of the present state of knowledge in each department.

Professor VON FRISCH delivered an introductory address on the History of the Development of Urological Diagnosis. He showed how practitioners in past generations had some sound ideas as regards the importance of urology and the correlation between general diseases and those of the uropoietic organs. He specially mentioned cystoscopy, catheterisation of the ureters and the kidneys, cryoscopy, and modern

surgical achievements as having resulted in the establishment of a well-defined branch of medicine.

Professor KÜSTER and Professor VON EISELSBERG opened the first discussion. The subject of their communication was the Diagnosis and Treatment of Tumours of the Kidneys. They said that in any given case it was necessary to decide (1) whether a tumour was present at all; (2) if there was a tumour what were its relations to the adjacent tissues; and (3) whether the tumour was accessible. In the diagnosis pains, changes in the urine, pigmentation, and the functional activity of the kidney were very important, so that in some cases even bilateral exposure of the kidneys might be advisable. The best plan of treatment was nephrectomy, although sometimes partial excision was sufficient. The lumbar route was the best when the tumours were moveable but fixed tumours were best attacked transperitoneally. It was important to remove the lymphatic glands, the capsule of Glisson, and the adrenals. Spinal analgesia was very useful in these operations.

Dr. KOTZENBERG (Hamburg) discussed the subject of Hæmorrhage from the Kidney. He said that in former times these hæmorrhages when profuse were called "essential" or "renal hemophilia," but it has since been shown that the true cause was a nephritic process. The condition appeared between the twentieth and fortieth years of life and the blood came mostly from one kidney only, although the inflammation affected both kidneys. For this reason only decapsulation was possible; it was a safe method of arresting the hæmorrhage and acted by relaxing the swollen tissues.

Professor ALBRECHT (Vienna) spoke on the subject of Dystopia Renalis. He said that this condition was produced by certain obstacles in the development of the uropoietic organs. The diagnosis was not easy; it depended on the evidence of other abnormalities in the same person, such as alterations in the shape of the kidney and in the vascular supply which caused pulsatiou of the posterior wall of the bladder when cystoscopy was undertaken. Catheterisation of the ureter and x-ray examination of the ureter filled previously with collargol might give valuable hints. In the ensuing discussion it was contended by several surgeons that pulsation of the posterior wall of the bladder must be unilateral if any diagnostic value was to be attached to it and that the evidence of dystopia renalis was of little clinical significance.

Professor ZUCKERKANDL (Vienna) said that enlargement of the prostate might cause pulsation of the bladder.

Dr. SUTER (Basle) read a paper giving many statistical data with regard to the value of indigo-carmin in renal diagnosis. He said that this substance, which was first employed by Voelker, was a very simple and useful means for estimating the functional activity of the parenchyma of the kidneys. In combination with cystoscopy and catheterisation of the ureter it permitted inferences to be drawn from an examination of the living patient and it enabled the surgeon to determine which was the diseased side, but it did not give any hint as to the indication for operation, its value being diagnostic only.

Dr. RINGLEB (Berlin) discussed the question of the separate collection of the urine from the two kidneys. He said that at present no method gave absolutely correct results. The ideal plan would be aseptic, simple, easy, free from danger, and capable of collecting the secretion of each kidney without changing its normal quality and quantity. Catheterisation of the ureters and the use of the "separateur" approached these requirements without filling them.

Dr. VOELKER (Heidelberg) read an interesting paper on the Surgery of the Tuberculous Kidney. His clinical material comprised 24 cases, the majority of whom were men. He said that in these cases women had an advantage over men from the fact that their genital organs were more separated from the organs of urination, so that opportunities for the spread of infection were lessened. The best operative results were obtained by primary nephrectomy and implantation of the ureter into the skin.

Dr. LICHTENSTERN (Vienna), dealing with the same subject, said that tuberculosis of the kidney was curable by operation and that recovery might be considered as complete if the urine became permanently free from tubercle bacilli. These bacilli might, however, remain in the urine for at least two months after operation but disappeared entirely at a later period. The bladder troubles which often followed nephrectomy were sometimes due to simple cystitis which subsided under the usual treatment.

Professor ZUCKERKANDL read a paper on "Closed" Tuberculous Pyonephroses. He said that in certain cases of long-standing disease the typical result was an absolutely closed sac representing the kidney. All secretion stopped and the disease might terminate in this way unless the sac happened to burst. The diagnosis of this condition was possible.

Dr. WILDBOLZ (Berne) gave the details of his experiments on the production of Ascending Tuberculosis of the Kidney. He was the first investigator to proceed in these experiments by injecting an emulsion of bacilli of perlsucht (bovine tuberculosis) into the bladder without interrupting the flow of urine. Hæmatogenic and lymphogenic infection could be excluded.

A series of interesting microscopical preparations illustrating congenital malformations and neoplasms was exhibited by Dr. PANDLER, Dr. STOERCK, and Dr. STERNBERG. Vesical calculi partly obtained by operation and partly passed through the natural channels were also exhibited. Dr. FRANK (Berlin) showed comparatively large calculi removed by evacuation with his catheter. Dr. WASSIDLO (Berlin) showed a calculus the centre of which consisted of paraffin; the patient had been treated formerly with injections of paraffin on account of incontinence of urine and cystitis and concretions in the bladder were noticed two years later.

The after-treatment of cases of Lithotripsy was the subject of several papers read by Dr. MOSZKOWICZ, Dr. GOLDBERG, and Dr. MAUKIEWICZ. They said that the improvement of the technique was chiefly due to the exact measurement of the pressure exerted on the wall of the bladder, thus preventing undue stretching or rupture of the organ.

Dr. LICHTENSTERN read a paper on Papilloma of the Bladder. He said that after operating for ordinary papillomatous growths, the diagnosis of which had been confirmed by the microscope, he had several times observed recurrences of a malignant nature, sometimes in the abdominal scar and sometimes in the bladder. He therefore believed that the removal of papillomata should be performed in a very careful radical way with a view to prevent implantation of germs during operation.

A long discussion followed this paper, which showed that similar observations had been made by numerous surgeons. It was agreed that papilloma of the posterior wall of the bladder ought to be considered as approaching carcinoma and treatment ought to be directed accordingly.

Hypertrophy of the prostate was dealt with by several papers, the readers of which agreed that the etiology, pathology, and treatment of this condition were not yet fully elucidated. Enucleation was often necessary and might have good results even in patients of the age of 60 or 70 years. X ray treatment of the hypertrophy, either through the perineum or through the bladder, was also followed by good results. Dr. MOSZKOWICZ said that he had treated cases in this way and that the reaction was rather unpleasant in some of them. The gland became inflamed and although general symptoms were slight, necrosis of the hypertrophic elements soon set in. The method was advisable in general hypertrophy when immediate measures were not urgent.

(*To be continued.*)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

A New Medical Corps for Birmingham.

IN association with the formation of the new territorial force an endeavour is to be made to raise a medical corps, over 700 strong, in Birmingham. The work has already commenced. A committee has been formed to meet Sir Alfred Keogh, K.C.B., and arrangements have been made for the lecture which he will deliver on Thursday, Nov. 21st, in the Medical Theatre of the University. Lieutenant-Colonel W. P. Whitcombe, the senior medical officer of the Worcester and Warwick Volunteer Infantry Brigade, will be in the chair, and it is hoped that there will be a very large gathering of the medical men of the district. Everything will be done to make the scheme a success. It is recognised that it is important, that great efforts will be required to bring it to a successful issue, and that many sacrifices will have to be made, but the medical profession as a whole is used to making sacrifices and devoting itself to the public service,

and it will doubtless rise to the occasion. It has been decided to concentrate the whole of the unit in one place, and this decision will probably in the end tend to success and efficiency, for if the companies were scattered over the whole area it would be difficult to get proper cohesion at critical times.

The Children's Hospital.

After long and careful consideration the authorities of the hospital have decided that a new building must be erected and that the present site is unsuitable. There can be little doubt that on both points everyone will agree with them. The present site is cramped, it cannot be extended except at unjustifiable cost, and though additions might be made which would suffice for a short time, the money and trouble expended in such a manner would be practically thrown away and the bigger scheme would eventually have to be faced. The lease of the present building has only 12 years to run and the hospital authorities have been wise to commence making their arrangements for a new home in good time. One of the difficulties in making new arrangements has been that of obtaining a good site sufficiently near the centre of the city, for the committee recognised at the outset that as the main object of the hospital was the treatment of urgent cases it was impossible to go into the country. Fortunately, they have discovered a freehold site in Ladywood-road which though farther away than could be wished is still not too far. The cost of the site will be £15,000. It contains 13,234 square yards and is sufficiently large for the erection of a hospital to contain 120 beds, though it is possible that the number provided may in the first instance be smaller, much depending upon the response of the public to the appeal which must be made to them for the necessary funds.

The Queen Alexandra Sanatorium.

As the result of a meeting recently held in the council house, a local fund has been established with the object of obtaining the £1000 necessary to enable Birmingham to secure two beds in the sanatorium which it is proposed to erect at Davos. The Right Hon. Lord Balfour of Burleigh, who was the principal speaker at the meeting, pointed out that the object of the promoters of the scheme was to build a sanatorium for 60 beds and general accommodation for 100 patients. It is computed that £35,000 are necessary for the purpose and of that sum £20,000 have already been obtained. The sanatorium is to be in no sense a charitable institution but its benefits will be obtainable at a cost which will scarcely exceed that necessarily entailed at home. Care is to be taken that only suitable cases shall be sent and there seems to be great probability that much advantage will be derived as soon as the institution is established.

Hospital Sunday.

A special attempt has been made this year to increase the amount of the Hospital Sunday collections. Some religious denominations which had not previously been actively associated with the fund were induced to give their assistance and it was hoped that increased public attention would be secured and larger subscriptions obtained. When first the returns began to flow in it seemed possible that the object desired had been attained, but the most recent report gives the total sum hitherto received as £4950 and the total sum received last year was £5321. It is, of course, possible that other donations may be received before the fund is distributed, and until the distribution takes place there is little use in speculating upon the causes which seem to be interfering with Hospital Sunday collections.

The Birmingham Medical Mission.

The annual report of this mission shows that it continues its excellent work with inadequate support. It touches a fringe of humanity that no other society comes into contact with in quite the same way, and it does an amount of good and prevents an amount of evil which is not fully appreciated by the general body of citizens. During the past year Mr. H. Bagster Wilson, the medical superintendent, has made over 2000 visits. Advice and medicine have been given to 30,770 cases and many classes and meetings have been held. All this means not only a very large amount of gratuitous work but also a considerable expenditure of money, and the result on the year's working showed a deficiency of £189. As Dr. T. E. Underhill said at the annual meeting, the society needs at least £2000 a year, but in the meantime it has to do the best it can on £1500. Considering the value of the work done the society deserves better support.

The Health of the City.

Scarlet fever is still with us, but for the moment, at all events, it seems to be on the decline, the number of fresh cases, according to the last four weekly reports, having been 83, 74, 71, and 57. It is perhaps, however, too soon to congratulate ourselves, for six weeks ago the number of fresh cases fell to 67, only to rise again to 83, and it may be that a similar disappointment is in store for us again. Apart from scarlet fever the general health is good, for although during the past week the general death-rate rose from 15·5 to 15·7 it is still below the usual standard for the time of the year. During the week the number of patients in hospital suffering from diphtheria has decreased but the number of cases of enteric fever has slightly increased. The unsatisfactory feature of our present health position is the number of cases suffering from infectious diseases but we may be glad that, in the circumstances, the death-rate in respect to these diseases is so low.

Nov. 12th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The New Lord Mayor of Liverpool.

Dr. Richard Caton, J.P., consulting physician to the Liverpool Royal Infirmary and emeritus professor of physiology at the University of Liverpool, was unanimously elected Lord Mayor of Liverpool on Nov. 9th. Dr. Caton has been a member of the city council for only four years, but his well-known abilities and his wide interests and sympathies quickly brought him into a prominent position in the work of the city as a member of the health committee and chairman of the housing committee. All parties are unanimous that the honour is not only well deserved but will be worthily sustained. Dr. Caton represents the University of Liverpool on the General Medical Council.

The Association of the Honorary Medical Officers of the Liverpool Medical Charities.

The honorary medical officers of the various Liverpool medical charities have formed themselves into an association with the object of protecting the interests of the members of the association and of the profession generally. The objects and constitution of the association are as follows:—

(1) The discussion of matters relating to the policy of the hospitals which in any way may affect the position of honorary medical officers; (2) if deemed necessary, to take steps to advance or protect the interests of the members of the association and of the profession generally in their relations to the hospitals; (3) any honorary medical officer of any Liverpool medical charity is entitled to become a member of the association, subject to election by the council; (4) a chairman and secretary shall be appointed by the general body of the association at the annual meeting; (5) the chairman and secretary shall serve for one year and be eligible for re-election; (6) that eight members of the association be appointed to serve, together with the chairman and secretary, as a council of the association—five members to form a quorum; (7) of the eight members of council, four shall retire annually, the vacancies to be filled by election at the annual meeting.

The rules of the association comprise the following:—

(1) That the council meet at least once in every three months; (2) that the council shall consider and report on any question referred to them by a majority of a general meeting of the association; (3) the council may consider and report on any question which they may hold to be of importance to the association and submit the same, together with their report, to a meeting of the general body of the association, the usual notice being given; (4) that the council shall call together the general body of the association for the annual meeting in the month of June, and on such other occasions as they may deem necessary; (5) that no public action be taken, or any communication made concerning the proceedings of the association to the press, lay or medical, without the previous consent of two-thirds of the members present and voting at a general meeting; (6) that the secretary shall call a meeting within 14 days on receiving a requisition to do so, signed by 10 members of the association; (7) not less than seven days' notice shall be given for the summoning of a meeting (in cases of extreme urgency the secretary may, with the consent of the chairman, call a meeting on shorter notice); (8) that in the event of circumstances arising requiring the active intervention of the association, the representation of the views of the association be deputed to the chairman, with the coöperation of the secretary and council; (9) any member desiring to bring forward a subject for discussion must advise the secretary of his intention to do so, and the subject shall be placed on the agenda paper, which is to be sent to each member of the association together with the usual summons of meeting; (10) any member having business of importance to bring forward which has not been placed on the agenda paper must request and receive the permission of two-thirds of those present and voting; (11) that each member of the association pay an annual subscription not exceeding five shillings to meet current expenses; (12) that the council may, if they think it advisable, invite any member of the medical profession

outside the association to assist them in their deliberations on any particular question, and that they may also, if they think it advisable, invite any such gentleman to be present at a general meeting; (13) that no visitor be admitted to any general meeting of the association except on the invitation of the council; (14) at least a month's notice must be given of any resolution to alter the constitution, or modify the original objects of the association, which alteration shall only be enforced if carried by a majority of two-thirds of those present and voting.

The next meeting of the association will be held on Nov. 22nd at the Liverpool Medical Institution, when discussions will take place on the attendance of members of the association on patients occupying private wards in hospitals and on the territorial scheme as applying to the honorary medical officers of the general hospitals. It is a pleasing fact to note that the greater number of the honorary medical officers of the Liverpool hospitals have already joined the association and it is sincerely hoped that the few who have not yet enrolled their names as members may see their way to do so without delay.

"Chemical Protection against Disease": Lecture at the University of Liverpool by Professor Benjamin Moore.

Professor Benjamin Moore, the chief of the department of bio-chemistry, delivered a lecture on the above subject in the physiological theatre of the Thompson Yates Laboratory on Nov. 2nd. He dealt with his subject on the lines of a popular lecture and in an hour's review of the varied ways in which bio-chemistry is applied to medicine covered a great deal of ground. He began by explaining the chief chemical elements of living matter, showing how the constituent atoms by a constant commerce of exchange with nutrient matter maintained vitality. The natural chemicals of the body, he explained, constituted protection against disease, and the researches of bio-chemistry were conducted to the end of assisting in those means of self-protection. Amongst the researches which are being conducted at the University laboratories he instanced those into the nature of the little parasitical trypanosomes which cause sleeping sickness in man, the tsetse-fly disease, and the surra disease which attacks cattle, and the composition of artificial foods which are responsible for so many diseases amongst children. The experimental processes by which antitoxins are evolved were also described. He incidentally claimed for the University of Liverpool's researches the credit of having discovered the drug which is used in the cure of sleeping sickness amongst human beings. That disease, he stated, was found to recur very frequently, and this had led to the discovery of the fact that there were two stages in the life of the trypanosomes, each of which had to be attacked by a different drug, and it was to combat this difficulty that research work was still being prosecuted.

Liverpool School of Tropical Medicine: The Sleeping Sickness Expedition to Southern and Central Africa.

A communication has been received by the chairman of the School of Tropical Medicine from Dr. A. Kinghorn who, with Mr. Montgomery, was despatched in May last to Southern and Central Africa by the Liverpool School of Tropical Medicine to investigate sleeping sickness there and to consider methods for the prevention of that disease. Writing from Serenje on August 30th, Dr. Kinghorn said, among other things, that he had found tsetse flies in the Lunangwa Valley, at one spot in the Machinga Mountains on the road from Broken Hill to Fort Jameson, and near Sasan Mine. The general opinion throughout the country was that they were rapidly extending. If, therefore, sleeping sickness could be transmitted by this species the danger of a more or less general infection of the country was very great. The money spent in deciding the point as to whether only one species of flies or more were capable of carrying the disease would, Dr. Kinghorn says, be well spent. The two sources from which the disease might be expected to enter the country were from the Congo across the Luapula, and again at the south end of lake Tanganyika. From reports recently issued from this district the disease was endemic in Belgian territory near the boundary; and, as the people communicated freely, there was danger of cases being imported.

Nov. 12th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

Formation of a Yorkshire Association of Graduates of the University of Edinburgh.

IT is one of the most striking and certainly one of the most satisfactory features of life at a university that it seems to implant in the minds of those who have spent some years in study within its walls a something which leads them to keep up or to renew old friendships, and in after years to form new friendships with others of which the bond is some feeling of affection or love for their common *alma mater*. Though the largest of the Scottish universities is somewhat late in forming an association of its graduates in Yorkshire—for in this it has been anticipated by Aberdeen and Glasgow, whose associations were formed eight years and 12 months ago respectively—the movement has met with marked success, and a society has been inaugurated which cannot fail to be a successful and prosperous one. The association celebrated its formation by holding its first annual dinner at Leeds on Oct. 31st, when under the presidency of Dr. J. E. Eddison some 80 graduates of the university and their guests met at Powolny's restaurant. Sir William Turner, who for so many years was professor of anatomy at Edinburgh and who is, of course, now Principal of the University, was the chief guest and, as may be readily understood, was the recipient of an unusually cordial reception from many of his former pupils. Dr. Eddison, in proposing Sir William Turner's health, which toast was associated with that of the University, referred in cordial terms of appreciation to the affectionate regard in which the guest of the evening was held by all his old pupils and to his many acts of kindness which he was sure would occur to the minds of those who had studied under him. In his reply Sir William Turner gave an interesting account of the development of the existing associations in various centres of England representative of the University of Edinburgh, and congratulated Leeds and Yorkshire in general on the successful inauguration of the new society. He dealt with the contrast in the condition of medical and surgical practice in various parts of the country prior and subsequent to the passing of the Medical Act of 1858, and reminded his hearers that, as he himself had entered on the study of his profession so long as 61 years ago, he could remember the days when major operations were done without the use of anæsthetics. Referring to the University of Leeds he mentioned that that afternoon he had had the pleasure of inspecting the various departments in the medical school and that he was most favourably impressed by all that he had seen. The development of new and well-equipped universities in the large provincial centres of England would undoubtedly influence in the future the large migration of students from the south to Edinburgh, but he pleasantly remarked that the large and opulent cities and towns of Lancashire and Yorkshire would always prove an attraction to men with Scottish degrees and it was clear that he viewed with satisfaction the maintenance of this bond of union between the two divisions of the kingdom. Perhaps one of the most interesting parts of Sir William Turner's speech was that in which he dwelt with all the weight of his great experience on the influences other than pedagogic of a great university on the community in the midst of which it was situated and for the few pregnant sentences which he delivered on this subject alone all who are interested in the University of Leeds will thank him.

Sir Thomas Clifford Allbutt, K.C.B.

Every member of the medical profession will hail with the liveliest satisfaction the announcement that His Majesty has by making him a Knight Commander of the Bath honoured Dr. T. Clifford Allbutt, and it is natural that nowhere can this feeling of satisfaction and gratification be more pronounced than in Yorkshire, and especially in Leeds, where so much of his work was done and with whose school of medicine he was for so long and so honourably associated. Dr. Allbutt was a member of the acting staff of the General Infirmary of Leeds from 1864 to 1884, when together with Mr. Wheelhouse and Mr. Teale he retired under a new rule and became a member of the consulting staff. It has been remarked on before in another connexion in this column of Leeds correspondence that the members of the consulting staff of the infirmary remain members of the infirmary faculty and retain the right to the use of six beds, and this privilege does not cease even if the member, as was the case with Dr. Allbutt and Mr. Wheelhouse, leaves Leeds or its neighbourhood. The honour which has been conferred on their colleague is one which is greatly appreciated by all the members of the staff of the infirmary, many of whom have in former years been associated with him in different capacities.

Nov. 12th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Tuberculosis Exhibition in Ireland.

IN connexion with the formal closing of this exhibition addresses were delivered on Friday evening, Nov. 8th, in the theatre of the Royal Dublin Society by Sir Shirley F. Murphy, chief medical officer to the London County Council, and Dr. A. K. Chalmers, medical officer of health of Glasgow, on "The Control of Milk" and "Food Supplies and Certain other Conditions Affecting Tuberculosis" respectively. The Lord Lieutenant, who was accompanied by the Countess of Aberdeen, in presiding, referred to the splendid help and service given, at some inconvenience and trouble to themselves, by the leading members of the medical profession in the campaign recently inaugurated for the prevention of consumption in Ireland. Sir Shirley Murphy, in his address, said that while it was a difficult matter for the authorities to control the supply of tubercle bacilli in milk it was not impossible. It was absolutely necessary that there should be a periodical veterinary inspection of all cows if they were going seriously to attack tuberculosis in the bovine animal and its relation to milk. He thought that animals affected with tuberculosis should be branded so that nobody else would buy them. In any effort that might be made they must have the coöperation of the people. Dr. Chalmers, in his address said the larger the town the heavier the death-rate from pulmonary tuberculosis. He was thoroughly convinced that tuberculosis in man must be fought by raising the low standard of housing and sanitation generally, and that while they might regard sanatoriums for early cases and homes of rest for those in whom the disease had almost run its course as valuable auxiliaries in the work, yet the ultimate extirpation of the disease would only be accomplished by removing conditions which fostered it. The inspection of cattle was essential, and the proper lighting, ventilation, and cleansing of dairies and cowsheds were necessary. Milk coming from insanitary farms should be prohibited from being sold. Reform of the dairy must inevitably precede the production of a pure milk-supply. In a letter to Her Excellency the Countess of Aberdeen, apologising for inability to be at this meeting, Sir John W. Byers pointed out that a great deal of the tuberculosis in Ireland was probably due to the consumption of milk coming from tuberculous cows and urged that instead of adopting as the only remedy sterilisation of the milk—a plan which, apart from the fact that it deprived the milk of certain constituents of special value in the case of young children, and which, even presuming that the sterilisation of milk became general (which was very doubtful), would take away from the dairykeepers the incentive to supply a clean milk and to eliminate from their herds tuberculous animals—they should urge rather as the final solution of the question that the people should be supplied with pure clean milk from non-tuberculous cows. Sir John Byers recommended the Department of Agriculture and Technical Instruction for Ireland to start three small model dairies conducted on the lines which he had indicated in Dublin, Cork, and Belfast, which would be of enormous utility as object-lessons to the farmers and dairykeepers in Ireland in teaching them what is really meant by the control of the milk-supply and which would be of incalculable value in the prevention of tuberculosis and infantile maladies. On the motion of Mr. W. L. Micks (Local Government Board), seconded by Sir John W. Moore, and supported by Sir Charles A. Cameron, a cordial vote of thanks was passed to Sir Shirley Murphy and Dr. Chalmers for their addresess. On the motion of Mr. H. Barbour (Lisburn,) seconded by Dr. J. Magee Finny, a vote of thanks was passed to their Excellencies the Lord Lieutenant and the Countess of Aberdeen. In replying, the Lord Lieutenant thanked the committee of management of the International Exhibition for providing premises for lectures and all who had otherwise assisted in promoting the movement.

The Women's National Health Association of Ireland.

On Friday afternoon, Nov. 8th, the first meeting of the committee in connexion with the Belfast branch of the Women's National Health Association of Ireland was held in the City Hall, Belfast, the President of the branch, the Countess of Shaftesbury (Lady Mayoress), presiding. There was a crowded attendance of ladies. The honorary secretary, Dr. Marion B. Andrews, having read the list of apologies for non-attendance, Sir John Byers, at the request of the Lady Mayoress, addressed the meeting, explaining the objects of the association, the subjects that were felt to be most pressing (tuberculosis, infantile mortality, the control of milk-supply, and school hygiene), and how ladies could help in the campaign. Subsequently a representative executive committee was appointed, as proposed by the Dowager Marchioness of Dufferin and Ava, seconded by a prominent lady guardian, Mrs. J. C. C. Payne. Lady Jaffe (ex-Lady Mayoress) moved a proposition asking the Lord Mayor for permission to use one of the rooms in the city hall for meetings of the committee, which was seconded by Miss R. Campbell, formerly lady superintendent of the Hospital for Sick Children, Belfast. Lady Crauford (the treasurer) moved a proposition in reference to finance, which was seconded by Lady Baxter of Coleraine. A hearty vote of thanks was passed to the Lady Mayoress, moved by Mrs. N. G. Smith, and seconded by Mrs. Forster Green (widow of the founder of the Belfast Hospital which bears his name—"Forster Green Hospital for Consumption"). The meeting was splendidly attended, the city hall being crowded with ladies, and the proceedings were most enthusiastic.

The Cork Medical and Surgical Society.

The annual dinner of the Cork Medical and Surgical Society was held at the Imperial Hotel, Cork, on Nov. 9th. The President, Dr. Moore, occupied the chair. The toast of "The King" having been duly honoured, "The Cork School of Medicine" was proposed by the City High Sheriff and responded to by Professor H. Corby and Professor C. Y. Pearson. Mr. Philip G. Lee proposed the toast of "Our Guests," which was responded to by Professor Molohan and Alderman Meade. The latter, who is a member of several public boards, counselled the members of the medical profession to stand together if they wished to have their grievances redressed. His sympathies had been always with the medical men of the city, and if at any time he could render them any service he would be very pleased to do so. In a very felicitous and humorous speech Dr. J. Cotter proposed "The Health of the City High Sheriff." He said that whilst medical men always endeavoured to preserve the lives of the people it sometimes became the duty of the High Sheriff to destroy life, but he feared that occasionally doctors unintentionally followed the example of sheriffs. The High Sheriff, who was very warmly received, suitably replied. Professor Pearson proposed the health of the two recently appointed professors, Dr. B. C. A. Windle, President of Queen's College, who now occupies the chair of anatomy, and Dr. Barry, the professor of physiology. Professor Barry, in the absence of President Windle, responded. Professor Corby proposed the health of the honorary secretary (Dr. J. Booth) and alluded to the energy displayed by Dr. Booth in procuring papers for discussion. Dr. Booth, in reply, thanked the members for the kind manner in which the toast had been received. In the intervals between the toasts there were several songs and all seemed to enjoy a very pleasant evening.

Nov. 12th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Daviot Asylum Tragedy: Report of the General Board of Lunacy.

AT a meeting of the directors of the Aberdeen Royal Asylum a letter was submitted from the secretary of the General Board of Lunacy for Scotland intimating that that Board had received a report from the medical commissioners of an investigation made by them into the circumstances attending the death of Alexander Duncan, attendant at Daviot Branch Asylum, on Oct. 18th, from which it appeared that the sudden assault by John Cantlay was not traceable to any prior incident and was not preceded by any conduct on the part of the patient which might have given warning of danger; that testimony had been furnished of the excellent character and kindly disposition of the attendant Duncan; that no blame was attached to any of those in charge of the patient; and that, judging from what the commissioners had heard of the patient's conduct, both while at the main asylum and at the Daviot branch, there was nothing to suggest that he was in any way unfitted for residence at Daviot under lay supervision.

Graduation at the University of Glasgow.

The autumn graduation ceremony took place at the University of Glasgow last week and was the occasion of a very rowdy demonstration by the students. Of 11 graduates who came forward for the degree of M.D. two received it "with honours" and four "with commendation." Several graduates, who on account of being referred or for some other reason, were unable to attend the midsummer graduation, received the degree of M.B., Ch.B. Principal Donald MacAlister presided and, in the absence of the Chancellor of the University, conferred the degrees.

Montrose Infirmary and its Medical Officers.

At a meeting of the managers of the Montrose Royal Infirmary held on Nov. 5th, Provost Foreman presiding, it appeared from the minutes of the house committee that the medical officers to the hospital had intimated that in future they intended to charge private patients sent by them to the infirmary for treatment and that the committee had by a majority minuted the instruction. Mr. Smith, in moving the approval of this portion of the minute, stated that the question of the medical man charging fees was a matter between the medical men themselves and their patients. The Rev. Mr. Taylor moved as an amendment that the board declines to entertain the medical men's proposal as being *ultra vires* alike of the medical officers and of the board. There would, in the event of the proposal being carried out, be a temptation to the medical men to put patients who were able to give fees into the infirmary. The result would be that the parish council, the churches, the public works, and individuals would withhold their subscriptions. In his opinion the medical men wished to make a benevolent institution into a nursing home. The idea of charging people admitted into a benevolent institution was outrageous and he strongly deprecated employing it in the interests of the well-to-do. The Rev. Mr. Callan seconded the amendment which was carried by 12 votes to 3.

Outbreak of Enteric Fever at Montrose.

An outbreak of enteric fever has taken place at Montrose and is assuming epidemic proportions. On Nov. 3rd four patients were removed to the Infectious Diseases Hospital at Brookfield, and up to the 7th 12 cases had been notified. Several of the patients are children and the cases are mostly severe. The outbreak is not confined to any particular part of the town. Dr. M. Connon, the medical officer of health, in his report to the public health committee of the town council, stated that so far he had been unable to discover the cause of the outbreak, and in view of the number of cases asked for power to furnish part of the new administration block for the accommodation of the nurses.

Nov. 12th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Necessity for a Minimum of Visual Acuity in Chauffeurs.

MANY of the accidents in connexion with motor-cars may be put down to a want of visual acuity in the chauffeur, and since railway men have to undergo a stiff examination in visual acuity it seems only natural to consider that visual acuity is just as necessary to steer a motor-car as to drive a train. On Oct. 8th M. Roche read a paper before the Ophthalmological Society in which he stated that there had come under his notice a relatively large number of chauffeurs in charge of powerful cars whose visual powers were reduced to a minimum. In one case, for instance, the chauffeur was practically blind in one eye from a central corneal opacity, while the other eye was so astigmatic that no glass would correct it. In another case the patient had high myopic astigmatism in both eyes. Only recently this chauffeur, who was riding a motor-bicycle, had suddenly found himself in the middle of a flock of sheep which he had taken to be a cloud of dust. Some chauffeurs, too, are practically monocular and if the healthy eye is momentarily put out of action by a cloud of dust, or by a fly getting into it, the chauffeur, for the time, is quite blind. M. Roche concluded by asking the society to adopt a motion that no person should be licensed as a chauffeur unless he had a certificate of at least minimum visual acuity, signed by an ophthalmic surgeon. The motion was referred to a committee.

Colloidal Silver in Genito-Urinary Affections.

M. Hamonic recently read a paper on this subject at a meeting of the French Urological Association. Colloidal metals consist of particles of very small dimensions, suspended or dissolved in a liquid medium. These particles show active brownian movements. The colloidal state can be brought about either by chemical methods or, and this is better, by electric discharges. This latter method results in the granules being of a definite size and of absolute purity. The method of administration is either by venous injection or directly into the tissues Metals so prepared have no toxicity and the particles possess a sort of life of their own which makes them comparable to ferments. They promote metabolism, increase cellular activity, and raise the phagocytic power. M. Hamonic has employed silver in this form with excellent results in cases of tubercle of the bones and glands. The technique of administration is simple: it is only necessary to inject the drug into the diseased tissue in a quantity varying with the extent of the lesion and the tolerance of the patient. In the case of the testicle the fluid has to be injected very slowly. The prostate may be injected by placing the patient in the genu-pectoral position and exposing the site of the gland by a speculum. Sometimes the injection will produce a little reaction but never one of any moment.

Hearing and Speech in Deaf-Mutes.

On Oct. 29th Dr. Marage read a paper before the Academy of Medicine on Some Experiences with Deaf-Mutes. He considers that, whatever be the degree of deafness, the condition of a deaf-mute can be improved if he is able to repeat what he understands. Other patients, on the contrary, who at first sight appear to be very little deaf are absolutely incurable. A simple examination undertaken by Dr. Marage enabled him to class his pupils into three categories—those who eventually understand and speak almost as well as anybody else; those who never get further than simply hearing and understanding music; and, finally, those, very few in number, who are absolutely incurable. Dr. Marage showed the Academy some deaf-mutes who, beginning in the month of June last, had been taken through a six weeks' course of acoustic exercises with the *sirène à voyelles*. These children, who varied in age from 11 to 14 years, could not only hear and understand French but their voices had gradually lost that very disagreeable quality which when one has once heard it is never forgotten. This method is valuable because the use of the *sirène à voyelles* does not in any way fatigue the teacher.

Some Errors in the Radiographic Examination of Fractures.

At the recent meeting of the French Association of Surgery held in October M. Lucas-Championnière discussed this subject. A very slight displacement of any part of the apparatus makes a factitious deformity. Moreover, fractures which are easily recognised clinically can be missed by radiography and portions of callus which appear transparent may be really quite solid. The observer should know how to interpret his radiogram which is by no means, as is commonly supposed by magistrates and the public, a true image. The paper dealt with very important matters from the medico-legal point of view.

A New Chair of Obstetrics.

At the sitting of Nov. 5th the Chamber of Deputies restored a vote of 19,050 francs for the organisation of a third chair of obstetrics (to deal with the clinical teaching of midwives) at the Faculty of Medicine, which vote had been previously thrown out by the Treasury officials (*Commission du Budget*) and by the Government. The vote has yet to pass the Senate, and, moreover, although the committee of the Faculty of Medicine congratulated M. Cazeneuve, to whose effort the passage of the Bill through the lower House is mainly due, yet many members of the Faculty are opposed to the creation of the chair.

Nov. 12th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

The Etiology of Barlow's Disease.

Dr. Bernheim, *privat-docent* for children's diseases at Zürich, publishes an interesting paper on the Etiology of Barlow's Disease. This affection is so rare in Switzerland that neither Professor Stoos at Berne nor Professor Hagenbach

in Basle, who occupy the University chairs for pædiatrics, has come across a single case, although sterilised milk is extensively used in the feeding of infants in this country. Neither had Dr. Bernheim had a case under observation until a year ago. Now he reports on nine not very severe cases which easily yielded to treatment and improved on a change of milk and the prescription of lemon juice. These children were all fed on sterilised Alpine milk supplied by a first-class firm under medical supervision. However, for the last year the firm had supplied standardised milk for infants recommended by German authorities as more trustworthy and easier of digestion. This coincidence could not be purely a matter of chance and Dr. Bernheim is of opinion that the standardising is at fault. He concludes that perhaps toxic substances get into the milk during the necessary course of varied manipulations, as analysis proves that the composition of the milk is unaltered as regards the quantity of mineral substances and of phosphoric acid. Acting on Dr. Bernheim's advice, the firm has given up supplying standardised milk as food for infants. It appears that in France, where the use of standardised milk (*lait fixé*) dates further back, Dr. Lecornu and Dr. Comby had in 1902 described quite a series of cases of Barlow's disease due to this cause.

High Altitude in Cases of Surgical Tuberculosis.

In the *Revue Médicale de la Suisse Romande* Dr. Rollier of Leysin publishes a report on the treatment of cases of surgical tuberculosis of children in high altitudes by insolation (sun baths). The well-known good effects of open-air treatment in cases of pulmonary tuberculosis apply equally to cases of surgical tuberculosis (affections of bones, joints, and glands). In his clinique at Leysin (altitude 4750 feet), above the lake of Geneva, Dr. Rollier has so far treated 120 cases, mostly with results far more satisfactory than those obtainable in the plain, but a stay of many months is obviously necessary, as he often has to do with long-standing and complicated cases. If the lungs are affected he makes use of Béraneck's serum; in cases of cold abscess he injects iodoform; he also makes use of the Bier treatment in cases of fistulæ. He advocates very conservative treatment and seldom operates. Operative interference often proves detrimental owing to extension of infection. Sun-bath treatment warmly advocated by Dr. Bernhard of Samaden proved beneficial in many cases. Finsen recommended it in lupus. Fistulæ close very rapidly under the influence of the rays of the sun, cicatrisation being rapid and often of lasting duration. Dr. Rollier adds details of ten severe cases which recovered well.

Zürich, Nov. 10th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

A Sanatorium for Medical Men in Marienbad.

IN view of the fact that a large number of medical men visit Marienbad for the benefit of their health the local medical association is taking steps to organise a sanatorium for the use of them and their families only. The intention is to allow each medical man who comes to the watering-place a course of from four to six weeks of rest and a series of mineral baths and waters free of charge. Until the building for the sanatorium is ready for occupation the medical visitors will be received in the houses of the local practitioners but will have to provide their own meals. The other benefits will consist of free admission to all baths, all concerts, the reading-room, and various entertainments. The theatres and restaurants will also have a reduced scale of charges for the inmates of the sanatorium. The expenses of the establishment will be defrayed partly by a grant from the town council and partly by the local practitioners and other medical men.

The Activity of Voluntary Muscles.

At a recent meeting of the Vienna Gesellschaft der Aerzte Professor Benedikt read a paper on an important subject which has hitherto attracted little attention. He made experiments with regard to the activity of voluntary muscles and came to the conclusion that there were two independent systems of nervous fibres present. One of these controlled the contraction and the shortening of the contractile elements, while the other controlled the thickening of the diameter. Thus the one controlled the lifting power and the other the distance of the lifting or "stroke." In restoring the condition of repose and equilibrium two antithetic systems of nerves must come into action just as with the inhibitory nerves of the heart. The feeling of fatigue served the purpose of a safety valve against exhaustion. This feeling might in some patients be excessive, even before action of the muscles, and in cases of easily exhausted nerves and muscles the condition termed neurasthenia might develop. This term was often applied *en masse*, showing how a wrong diagnosis might be made if the symptoms were not subjected to severe analysis. Professor Benedikt thought that the current in the nerves was composed of longitudinal and transverse waves in different phases. Tabes dorsalis was explained by him not as a disturbance of coördination but as an association of independent disturbances in several muscles of a group, as a disturbance of a regulating innervation of the elements of the muscle tissue. Through this disturbance the elements responded less readily to the stimulus and the resulting movement was excessive or "tabetic." The doctrine of the correlation between the anæsthesia and the tabetic type of movement was, according to him, entirely wrong and untenable. Syphilis as a causative factor was rarely present and the syphilitic origin of tabes was no more than a hypothesis. The use of mercury and iodine in this disease was therefore a grave mistake. Professor Benedikt found the best results for some of these cases from passive stretching of the nerves by laying them bare and pulling at them.

A New Method of Treating Detachment of the Retina.

At the same meeting Dr. Sachs showed a woman, 49 years of age, on whom he had tried successfully a new method of preventing a relapse of detachment of the retina, for which she had been four times operated upon. Her sclera had been several times punctured for accumulation of subretinal fluid. The condition improved after the first two punctures but the third and fourth times the result was very unsatisfactory. The punctures had to be resorted to because all other methods of treatment, including pressure and injections of solution of chloride of sodium, were unavailing. They were made in the upper external quadrant of the bulbus by means of a small galvano-cautery. Punctures in the other quadrants were also made but still the disease progressed. Dr. Sachs then resolved to bring about permanent adhesion of the retina to the sclera at a point where the retina was easily lifted off its base by a collection of fluid. The anatomical conditions were as follows. The retina was fixed to its base only at the papilla and along the ora serrata, nearly in the middle between the margin of the cornea and the aequator bulbi. Then if liquid was accumulating in the subretinal space it would push away the retina easiest in the middle of this distance at the equator. The usual place of puncture was next to the ora serrata or next to the usual place of fixation of the retina; puncture in this situation, however, did not promote fixation in detachment. Dr. Sachs, therefore, on the next occasion punctured behind the equator after dividing the conjunctiva and pulling the eyeball a little to the inner side. 12 days later, as a slight accumulation of fluid appeared again and threatened to break down the adhesions set up by the last puncture, he repeated the operation, puncturing again behind the equator, this time on the inner side after temporarily detaching the rectus internus muscle. The ophthalmoscopic view was very satisfactory; white scars were visible, where the punctures had reached the retina; there was some hæmorrhage into the vitreous, but the vision of the patient was excellent and remained so for the six weeks during which she was under observation. After having obtained this good result Dr. Sachs operated in the same way behind the equator on three more patients with high myopia and detachment of the retina. An improvement was immediately visible but the time that had elapsed since the operations was insufficient to show whether the result would be permanent or not. No relapse had, however, occurred as yet, although the patients formerly complained that every few days their sight failed them. The method was said to be good for recent cases or for such cases of longer standing as have not yet many folds.

The Surplus and the 8,000,000 Kronen for Hospital Wards.

The Minister of Finance, in his Budget speech a few days ago, announced to his astonished audience that the surplus of the year 1906 amounts to 146,000,000 kronen, or more than £6,000,000. The continuous increase of the surplus during

the last five years has coincided with an improvement of the social, material, and hygienic conditions of the population. The large sums show, if analysed, that the augmented income of the State is partly due to an increase in the consumption of sugar, animal food, corn, tobacco, and alcohol. These figures show that the amount of the above-mentioned articles of food per head has increased by about 10 per cent. It might be perhaps advisable to reduce the taxes on food, as a well-fed population is capable of more work than an ill-fed one, and consequently yields a larger revenue to the State. This point was well brought out in a speech commenting on the Finance Minister's announcement in the house of parliament. A pleasing feature, at least from a medical point of view, was the item of 8,000,000 kronen to be used for replenishing the existing hospital wards in the university clinics and to obtain the most recent apparatus and inventions for medical purposes. With this use of the surplus of the people's work all political parties were well satisfied. It has, however, not been stated when this sum will be applied to the purpose mentioned.

The Prevention of X Ray Burns of the Skin.

Professor von Jaksch has been experimenting in Prague with a number of substances in the hope of discovering some means by which the remedial effect of the x rays could be obtained at a considerable depth in the tissues without damage to the skin. He found that a plate of silver 0·02 millimetre thick did not interfere with the action of the penetrating rays whilst it protected the skin sufficiently. He showed a patient suffering from myelogenous leukæmia who had been subjected to the action of the x rays for a total period of 10 hours and 25 minutes in 25 sittings. The skin over the spleen which was the part exposed to the rays showed only a slight hyperæmia, while the effect produced on the disease was favourable. The weight of the patient increased, the spleen became smaller by 50 per cent., the number of leucocytes went down from 250,000 to 8000 per cubic millimetre, and the excretion of nitrogen increased. He therefore recommended the interposition of a very thin silver plate if an energetic action on the deeper tissues was required.

Nov. 11th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Gift of £100,000 to the Melbourne Hospital.

THE question of rebuilding the Melbourne Hospital has been discussed for several years. Plans have actually been prepared but owing to various dissensions have never been finally adopted. A difference of opinion exists as to the suitability of the present site and a majority of the medical staff are in favour of rebuilding on a site nearer the University and slightly further from the centre of the city. The existing building dates back in some parts to Melbourne's earliest history and is generally inconvenient and devoid of modern appliances. The trustees of the Edward Wilson estate have now offered the committee a sum of £100,000 towards the erection of a new hospital. The late Mr. Wilson was a wealthy newspaper proprietor and at his death in 1878 bequeathed his whole estate to charity with a caution against encouraging any tendency to pauperism. The trustees in making their offer stipulate among other things that the hospital shall be rebuilt on the present site, unless within six months a more suitable site is acquired and approved by them. An estimate of the probable cost of construction and maintenance of the new building must also be approved to guard against building in excess of income. Further, the building must be commenced within 18 months from the date of the offer and completed in five years unless an extension of time is agreed upon. The committee has accepted the gift, so that the only question to be decided is whether the present site shall be retained. The block now occupied by the hospital buildings is one of the most valuable in the city and no difficulty would be met with in disposing of it if a change is decided upon.

School Hygiene.

The question of the medical inspection of school children is beginning to attract public attention in Australia, although none of the States except Tasmania have yet adopted any complete system. Dr. J. S. C. Elkington, the chief health officer of Tasmania, has recently carried out an inspection of 1200 children in Hobart and as a result of his report the Tasmanian Government appointed Dr. Ida Gertrude M. Halley as whole-time inspector of country schools, while part-time inspectors were appointed for Hobart and Launceston. These latter visit each school once a week or oftener and they inspect each class-room at least once every fortnight. All new scholars are examined by them as well as any children indicated by the teachers or picked out by the inspectors. The information obtained is registered and a copy is sent to the parents with a request that medical advice should, if necessary, be obtained from the family medical attendant. The child is afterwards kept under supervision. Teachers are systematically instructed as to what to look for in noting defects in children. Dr. Halley also lectures on school hygiene at the Training College and holds classes for mothers who are invited through the children. Requests from parents to have their children examined are stated to be increasing rapidly. The main defects noted are faults of vision and post-nasal growths. Ringworm is very uncommon in Australia. Dr. Elkington has further suggested that each State should undertake physical, mental, and pathological observations of school children on a uniform basis and that the material should be collated by the Commonwealth statisticians. The Commonwealth Government is willing to lend assistance and South Australia has promised to follow the course suggested. No doubt the other States will eventually agree to come in and the matter will probably be discussed at the next conference of State medical officers of health.

Vital Statistics.

The annual report of the Registrar-General of South Australia for 1906 shows the birth-rate to have been 23·70 per 1000 which is about the same as for the previous year. 357 births were entered as illegitimate, giving a percentage of 4·0. The death-rate was 10·29 per 1000 of the mean population, which is the third lowest rate yet recorded. The deaths from pulmonary tuberculosis totalled 307; of deaths from all causes 7·93 per cent. were due to this disease. The deaths of infants under one year numbered 676 and were in the proportion of 7·58 to every 100 births registered. The general result is stated in the following terms: "Viewed as a whole 1906 was only an indifferent year with respect to births, but it showed remarkable improvement in regard to marriage and increase of population, while in reference to its mortality record it was one of the most favourable years the State has ever known."

School of Anatomy, University of Melbourne.

When Professor R. J. A. Berry took charge of the anatomical school at the University of Melbourne he expressed disappointment at the provision made for the work of the classes and strong representations were put forward as to the necessity for effecting considerable improvements if the University desired to maintain its position as the leading medical school of Australia. The State Cabinet has now agreed to ask Parliament for a grant of £4500 for the required improvements. These will include an additional storey to the present school buildings which will provide room for a new lecture theatre.

Gift of a Hospital.

Messrs. Manifold Brothers, who are wealthy and public-spirited citizens of Victoria, gave, in 1897, a sum of money to the people of Camperdown for the purpose of instituting a jubilee memorial. Certain stipulations accompanying the gift were never met and the money recently reverted to the donors. Messrs. Manifold Brothers have now announced that it is their intention to devote these moneys to the equipment of a building purchased by them in Camperdown for use as a public hospital. Dr. J. G. Desailly, Dr. Lang, and Dr. Haynes have been asked to confer with Messrs. J. C. and F. Manifold and to suggest the best means of altering the structure to meet hospital requirements. Camperdown is a rising town in the western district of Victoria and the centre of a wealthy agricultural and grazing area.

Oct. 11th.

ARSENIC IN MILK OF SULPHUR.—At the Malmesbury (Wiltshire) petty sessions held on Nov. 6th a grocer of Crudwell was fined 10*s.* for selling a packet of milk of sulphur containing arsenic in the proportion of one-sixth of a grain to the ounce. The facts were not disputed, but for the defence it was contended that the vendor was not to blame as the arsenic was introduced in the process of manufacture.

Medical News.

THE APOTHECARIES' HALL OF IRELAND.—At examinations recently held the following candidates passed in the subjects indicated:—

Physics.—John W. Harvey.
Physiology.—J. Stewart.
Pathology.—John Clarke and J. Hargraves Robinson.
Hygiene.—Alexander Silbermaine and John Clarke.
Medical Jurisprudence.—Major Moody, Alexander Silbermaine, and John Clarke.
Materia Medica—Alexander Silbermaine.
Pharmacy.—John Clarke and Alexander Silbermaine.
Surgery.—J. M. Downer, Khaja Moinuddin, and N. Murphy.
Medicine.—S. V. O'Connor and J. Hargraves Robinson.
Midwifery.—J. M. Downer and J. Hargraves Robinson.

The diploma of the Apothecaries' Hall was granted to the following candidates entitling them to practise Medicine, Surgery, Midwifery, and Pharmacy:—J. M. Downer, Khaja Moinuddin, and N. Murphy.

TRINITY COLLEGE, DUBLIN.—At the final medical examination held recently the following were successful:—

Part II., Medicine.—William S Thacker, George F. Graham, Frank R. Seymour, Bethel A. H. Solomons, Edward C. Stoney, Edward J. H. Garstin, Julian B. Jones, Henry J. Keane, William H. Sutcliffe, William Knapp, John H. Waterhouse, Albert E. Wynne.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—On and after Jan. 1st, 1910, all examinations for the Fellowship will be conducted under the scheme now known as Grade I. No candidate after the above date will, in any circumstance, be admitted to examination for the Fellowship of this College under the scheme now known as Grade II., which will then cease to be used.

UNIVERSITY OF LONDON: KING'S COLLEGE.—Dr. Otto Rosenheim will give a course of three special lectures in Physiology, dealing with the Borderland of Animal and Vegetable Chemistry (Proteins, Lecithins, Pigments, &c.), in the physiological theatre of the College on Mondays, Nov. 25th, Dec. 2nd, and Dec. 9th, at 4.30 P.M. These lectures are free to all internal students of the University of London, all medical students in the London medical schools, and all medical practitioners on presentation of their cards.

FIFTY-TWO YEARS A PAUPER LUNATIC.—A remarkable case was recently reported to the Brighton board of guardians. An inmate chargeable to the parish of Brighton had died in Haywards Heath Asylum on Oct. 30th at the age of 86 years, and the extraordinary fact was that he had been maintained at the expense of the parish for no fewer than 52 years. He had been an inmate of the asylum since its opening in 1859, previously to which Brighton paid for him while in the Bethnal Green Asylum, whither he was removed from the old Brighton workhouse in 1855. The clerk to the guardians reported that from a careful calculation he estimated that the patient had cost the parish of Brighton £1560. The Brighton lunacy bill is a heavy one—about £14,000 per annum—but with the amount received from the National Exchequer and private sources the total demand from the ratepayers is about £8000 a year. Brighton has now 550 inmates in the asylum—326 females and 224 males. The Poor-law authorities at Sleaford estimate that a patient of theirs who has just died in Rauceby Asylum cost them over £1000.

FATAL OVERDOSE OF COCAINE TAKEN BY A MEDICAL MAN.—At the Hackney coroner's court on Nov. 9th Dr. W. Wynn Westcott held an inquest upon the body of Dr. E. J. E. Coop, a local medical practitioner, when the jury found a verdict, "Death from misadventure from taking an overdose of cocaine." Evidence was given to show that deceased, who was 37 years of age, had suffered lately, among other maladies, from caries of the teeth which excited intense neuralgic pains; during his summer vacation he had placed himself in the hands of a dentist who had "crowned" his defective teeth, as he did not care to carry a denture. Notwithstanding this special local attention the pain was so great that he was in the habit of frequently using a mouth-wash which contained a weak solution of cocaine hydrochlorate which served as an effective, if temporary, anodyne. It was his custom to eject the collutorium after it had rinsed his mouth into a wide-necked bottle, which he was careful to empty and to cleanse himself. On the night of the 5th inst. the housekeeper handed to him as usual his shaving-water at 10 P.M. and at 11.30 P.M. his mother heard him poking the fire in the dining-room. At 6.30 A.M. on the next morning the housekeeper on entering the room found him lying at full length on the hearthrug; a chair and a fire-dog had been upset; the fire was out but the gas jets were alight; the gargle-spittoon was in the place where he usually placed it, and a half-consumed cigarette was on the table. His clothes were not disarranged although his collar had been removed, this fact being explained by the fact that he had shaved late on the previous night. There was slight bruising on his left knuckles. His body was not cold but was stiffening, his hands being crossed upon his chest. A police constable on being called in found a four-ounce bottle in his right pocket, which bottle had been leaking, and another bottle on the floor, both containing a solution of cocaine. It was given in evidence that he had been very bright on the 5th and had had a busy day with his professional work. He had not any known trouble or anxiety nor had he threatened at any time to take his life, although he was frequently in severe pain. Medical evidence also stated that some months previously he had become insensible apparently from an overdose of the anodyne. The medical witness thought that taking all the facts adduced into consideration it was probable that while rinsing his gums with the solution during a violent attack of neuralgia the unfortunate man had swallowed a quantity of the mouth wash; developing the sensation of incipient frigidity, which probably he appreciated to be due to the poisonous dose which he had taken. He then placed himself as near to the fire as possible, lying at full length; in so doing he had overturned the chair and the iron-dog, against which he had possibly caught his knuckles and loosened the cork of the bottle in his pocket. This was the view taken by the jury.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following are the motions to be brought forward at the annual meeting of Fellows and Members at the Royal College of Surgeons on Thursday next, the 21st inst., at 3 P.M.:—To be moved by Mr. F. W. Collingwood:

That the President and Council of the Royal College of Surgeons be asked to use their moral influence with hospital authorities to recognise Members of the College (who are also in almost all cases Licentiates of the Royal College of Physicians) as having equal rights with provincial, Scotch, and Irish graduates to become candidates for hospital appointments.

To be moved by Mr. Joseph Smith:—

That this twenty-third annual meeting of Fellows and Members again reaffirms the desirability of admitting Members to direct representation on the Council, which as now constituted does not represent the whole corporation.

To be moved by Dr. W. G. Dickinson:—

That this meeting regrets that the Council has omitted from their report any reference to the opinion of His Majesty's Government on the question of the representation of Members and requests the President to supply the omission by communicating the same forthwith.

To be moved by Mr. George Brown:—

That this meeting notes with satisfaction that the Council intends to take a poll of the Fellows and Members on the whole question of admitting women to the diplomas of the College, and this meeting further urges that a similar course be taken with regard to the proposal for direct representation of the Members upon the Council.

To be moved by Mr. H. Elliot-Blake:—

(*a*) That this meeting of Fellows and Members of the Royal College of Surgeons wishes the Council to report as to their willingness to join the Royal College of Surgeons and its work with the University of London (so as to form an Imperial University of London), and whether they will approach the Royal College of Physicians for a similar conjoint action. (*b*) That this meeting requests the Council to add a hood to the gown already worn by Fellows and Members.

THE KINEMATOGRAPH IN MEDICINE.—At the opening meeting of the Middlesex Hospital Medical Society on Nov. 7th Dr. H. Campbell Thomson showed an interesting series of kinematograph pictures illustrating different points in the diagnosis and examination of patients in nervous diseases. Dr. Thomson observed that the kinematograph would be of considerable assistance in medical education and further pointed out that in connexion with bacteriology it had become possible to show the movements of micro-organisms and their behaviour in various circumstances, such as the clumping of the typhoid bacilli in the Widal reaction. Dr. Thomson then proceeded to give a practical demonstration of the utility of the method in the teaching of clinical medicine by means of living pictures of patients showing typical diagnostic

symptoms in disseminated sclerosis, Friedreich's disease, pseudo-hypertrophic paralysis, and paralysis agitans. The particularly striking instances of the value of this method were the reproductions of the different forms of nystagmus and the representation of the mask-like face in paralysis agitans. In replying to a vote of thanks, Dr. Thomson acknowledged the help which he had received from Mr. Charles Urban of the Urban Animated Photography Trading Company.

ON Monday, Nov. 18th, at 4.30 P.M., a conference on London Smoke and its Effects on Health will take place at 34, Devonshire-street, Harley-street, London, W., under the auspices of the Incorporated Institute of Hygiene. Sir William Richmond, K.C.B., will preside.

MEDICAL INSPECTION OF SCHOOL CHILDREN.—At a meeting of the Frome (Somerset) board of guardians held on Nov. 5th, at the suggestion of the Somerset Poor Law and Rural District Councils Association, a resolution was adopted in favour of the duty of inspecting school children in each union area being intrusted to medical men already practising in such district. The chairman said that in his opinion this was a much more efficient and economical plan than appointing one medical officer for the work and placing under his charge some 35,000 children.—The Wellington (Somerset) urban district council at its meeting held on Nov. 7th passed a similar resolution.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—A meeting of the Fellows of the Faculty of Physicians and Surgeons of Glasgow was held on Nov. 4th, when the following office-bearers were appointed for the ensuing year:—Dr. John Glaister, President. Mr. D. N. Knox, Visitor. Councillors: The President, *ex-officio;* the Visitor, *ex-officio;* the Treasurer, *ex-officio;* Dr. J. Lindsay Steven, as representative to the General Medical Council; Dr. Robert Perry; Dr. Neil Carmichael; Mr. H. E. Clark; Dr. Ebenezer Duncan; Mr. J. Walker Downie; and Dr. John Barlow. Dr. W. G. Dun, treasurer. Dr. Lindsay Steven, honorary librarian.

CAXTON CONVALESCENT HOME.—The committee of this convalescent home at Limpsfield, Surrey, of which Mr. J. Passmore Edwards is president and which was established in 1895 and extended in September, 1906, for the benefit of men employed in the printing and kindred trades, is appealing for financial assistance to help to pay off £1700, the balance of a debt of £3000 incurred by completing the extensions made in 1906. The other portion of the debt—viz., £1300—has been provided by life and annual subscribers, but it is desired to remove the heavy charge of interest now paid on the outstanding portion of the loan. The home has no endowment and receives no grant from the Hospital Saturday or Sunday Funds or from any charitable source. During the existence of the home 1300 workers have benefited by their stay, and in the first nine months of this year 120 patients were received, nearly all of whom returned to their employment with renewed vigour. Full information may be obtained of the secretary at the London office, 33, Chancery-lane, W.C. Cheques, postal orders, &c., should be forwarded to the secretary, payable to the treasurer, Mr. C. W. Bowerman, M.P., at the Union of London and Smiths Bank, Chancery-lane branch.

SOCIETY OF ARTS.—The opening meeting of the present session of the Society of Arts will be held at 8 P.M. on Wednesday, Nov. 20th, when an address will be delivered by Sir Steuart Colvin Bayley, vice-president of the society and chairman of the council. The subjects of the papers to be read at the succeeding Wednesday evening meetings before Christmas are as follows: The Franco-British Exhibition, 1908 (Sir John A. Cockburn); Old Age Pensions (Sir Edward W. Brabrook); Radio-active Phenomena (Sir William Ramsay); and the Rôle of France in West Africa (Monsieur Lucien Hubert). On Nov. 29th at 8 P.M. Dr. John S. Haldane will deliver a Shaw lecture on the Hygiene of Work in Compressed Air (Diving, Caisson Work, Subaqueous Tunnelling, &c.); and on Dec. 13th at 8 P.M. Professor Thomas Oliver will deliver another Shaw lecture on Industrial Poisons—Lead and Phosphorus, with special reference to Lucifer Match-making. Four Cantor lectures on the Theory of the Microscope will be delivered by Mr. Conrad Beck at 8 P.M. on Nov. 25th and Dec. 2nd, 9th, and 16th.

THE Dean and Chapter of York Cathedral have appointed Dr. J. Ramsay of High Petergate, York, to the position of chapter clerk, chamberlain, and registrar.

THE annual students' dinner of the National Dental Hospital will be held at the Trocadéro Restaurant, Piccadilly, London, W., on Friday, Nov. 29th, at 6.30 P.M. Mr. C. W. Glassington will be in the chair.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

DIGHTON, CHARLES A. ADAIR, M.B. Edin., has been appointed House Surgeon at the Peterborough Infirmary.

EASTERBROOK, CHARLES CROMHALL, M.D., F.R.C.P., has been appointed Physician-Superintendent to the Crichton Royal Institution, Dumfries.

EVERSHED, A. R. F., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Ophthalmic Surgeon to the Brixton Dispensary.

FORSTER, R. A., M.B., B.S. Aberd., has been appointed Assistant Medical Officer at Valkenburg Asylum, Cape Town, South Africa.

HARDWICK, ARTHUR, M.D. Durh., L.S.A. Lond., D.P.H. Lond., has been re-appointed Medical Officer of Health of Newquay (Cornwall).

HOLLAND, EARDLEY L., M.D. Lond., F.R.C.S. Eng., has been appointed Obstetric Registrar and Tutor to King's College Hospital.

INNES, JOHN, M.B., C.M. Aberd., has been appointed Medical Officer to the Aberdeen Dispensary.

JOYNES, FRANCIS JAMES, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for the Dursley (Gloucestershire) Rural District Council.

M'EWAN, THOMAS DUNCAN, M.B., Ch.B. Glasg., has been appointed Junior Assistant Physician to the Royal Asylum, Glasgow.

READ, A. W., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

RICKETT, G. R., B.S. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Sherborne District of the county of Dorset.

SCOTT, T. B. H., M.B., B.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Antrim District of the county of Antrim.

SHAPLAND, JOHN DEE, M.D. Durh., has been appointed Honorary Medical Officer to the Brixton Dispensary.

SHAW, CHARLES JOHN, M.D. Edin., has been appointed Senior Assistant Physician to the Royal Asylum, Glasgow.

SULLIVAN, M. T., M.D., C.M. McGill, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

WILLIAMS, LIONEL, M.D. Durh., M.R.C.S., L.S.A., has been appointed Deputy Medical Officer of the Workhouse and Thornbury District by the Thornbury (Gloucestershire) Board of Guardians.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNSTAPLE, NORTH DEVON INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

BIRMINGHAM, EAR AND THROAT HOSPITAL, Edmund-street.—House Surgeon. Salary at rate of £70 per annum.

BODMIN, CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £140 a year, rising to £160, with board, lodging, &c

BRENTWOOD, ESSEX COUNTY ASYLUM.—Fourth Assistant Medical Officer. Salary £150 per annum, with board, &c.

DERBY, NIGHTINGALE MATERNITY HOME.—Honorary Obstetric Physician.

DUDLEY, GUEST HOSPITAL.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, attendance, and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, London, S.E.—House Surgeon, also Assistant House Surgeon, for five months. Salary at rate of £80 and £70 per annum respectively, with board, residence, and washing.

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

GORDON HOSPITAL, Vauxhall Bridge-road, S.W.—Resident House Surgeon.

HAVERFORDWEST RURAL DISTRICT COUNCIL.—Medical Officer of Health. Salary £150 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

ILKESTON, BOROUGH OF.—Medical Officer (female) to undertake duties, under Inspection of Schools Act, 1906, and Notification of Births Act, 1907.

INVERNESS, NORTHERN INFIRMARY.—House Surgeon. Salary £100, with board, &c.

KING EDWARD VII. SANATORIUM, Midhurst, Sussex.—Pathologist, unmarried. Salary £250 per annum, with board, lodging, and attendance.

LEICESTER POOR LAW INFIRMARY.—Second Resident Assistant Medical Officer. Salary £120 per annum, with rations, apartments, and washing.

LISTER INSTITUTE OF PREVENTIVE MEDICINE.—Research Studentship. Value £150.

MANCHESTER ROYAL INFIRMARY.—Medical Registrar. Salary £70 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Honorary Radiographer.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Honorary Dental Surgeon.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160, rising to £180 per annum.

NEW HOSPITAL FOR WOMEN, Euston-road, N.W.—House Physician, Resident Medical Officer, Clinical Assistants, and Anæsthetist. All females.

NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Salary £20, with apartments, board, and laundry.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Assistant Physician.

NORWICH CITY ASYLUM, Hellesdon-next-Norwich.—Assistant Medical Officer, unmarried. Salary £130 per annum, with rooms, board, laundry, and attendance.

NORWICH, JENNY LIND INFIRMARY FOR CHILDREN, Unthank-road.—Resident Medical Officer (female). Salary £50 per annum, with board, residence, and laundry.

PADDINGTON INFIRMARY AND WORKHOUSE.—Assistant to the Medical Superintendent of the Infirmary and Medical Officer of the Workhouse, unmarried, for six months. Salary at rate of £72 per annum, with board, lodging, and washing.

PECKHAM HOUSE ASYLUM, London, S.E.—Second Assistant Medical Officer. Salary £150.

ROXBURGH DISTRICT ASYLUM, Melrose.—Assistant Medical Officer. Salary £150 per annum, with board, rooms, and washing.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Member of the Court of Examiners.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION FOR IRELAND.—Resident Medical Officer. Salary £300 per annum, with house.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, Charing Cross, W.C.—Clinical Assistants.

ST. GEORGE'S HOSPITAL, S.W.—Senior Radiographer. Salary £100 per annum.

SHANGHAI MUNICIPAL COUNCIL.—Assistant Medical Officer of Health. Salary £580 per annum, with quarters and allowances and free passage.

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN.—House Surgeon, unmarried. Salary £60 per annum, with board and residence.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Physician for six months. Salary £30, with board and lodging.

WAKEFIELD WEST RIDING ASYLUM.—Assistant Medical Officer. Salary £150, rising to £180, and upon promotion to £300, with apartments, board, washing, and attendance.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, &c., 73, Welbeck-street, W.—Resident Medical Officer for six months, renewable Salary at rate of 50 guineas per annum, with residence, board, washing, and attendance.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry provided.

WESTMINSTER HOSPITAL (opposite Westminster Abbey, S.W.)—Resident Obstetric Assistant for six months.

WINDSOR AND ETON ROYAL DISPENSARY AND INFIRMARY.—House Surgeon, unmarried. Salary £110 per annum, with residence, board, laundry, and attendance.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Second House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

YORK COUNTY HOSPITAL.—House Physician. Salary £100 per annum, with board, residence, and washing.

YORK, NORTH RIDING LUNATIC ASYLUM, Clifton.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £200, with apartments, board, washing, and attendance.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Axminster, in the county of Devon; and at Sherburn, in the county of York.

Births, Marriages, and Deaths.

BIRTHS.

BELILIOS.—On Nov. 9th, at Queen's-road, Wimbledon, the wife of David A. Belilios, M.R.C.S., L.R.C.P., D.P.H. Lond., of a daughter.

CORNER.—On Nov. 9th, at 37, Harley-street, the wife of Edred M. Corner, M.C., F.R.C.S., of a daughter.

SARGENT.—On Nov. 12th, at Harley-street, W., the wife of Percy Sargent, M.A., M.B., B.C., F.R.C.S., of a daughter.

SCOTT.—On Nov. 9th, at Queen Anne-street, Cavendish-square, W., the wife of Sydney R. Scott, M.S., F.R.C.S., of a son.

SIMSON.—On Nov. 8th, at Cheyne-court, Chelsea, the wife of Captain Harold Simson, R.A.M.C., of a son.

WARNER.—On Nov. 8th, at Kirby Muxloe, the wife of Allan Warner, M.D., D.P.H., of a son.

MARRIAGE.

O'NEILL—HOLME.—On Nov. 9th, at St. Mark's Church, Worsley, Charles Sefton O'Neill, M.D., to Dorothy, younger daughter of Strachan Holme, of Roe Green, Worsley.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

ALCOHOL AND CHLOROFORM IN SWEETS.

ACCORDING to a report of the inspector under the Sale of Food and Drugs Act for the Durham county council, samples of sweets were recently obtained by him which proved to contain chloroform. The sweets were known as "chlorodyne gums" and "chlorodyne lozenges," the former containing 0·5 minim of chloroform per "gum" and the latter 0·06 minim per lozenge. The sweets were sold at the rate of 1*d.* per ounce. Other sweets obtained for analysis were found to contain alcohol in small quantities. These are said to be sold freely to children who call them "whisky chocolates." Some time ago we referred in our columns to the alcohol contained in some sweets sold in the "penny-in-the-slot" machines but we understood that the practice was put an end to by the excise authorities.

ARTIFICIAL SMALL-POX.

To the Editors of THE LANCET.

SIRS,—May I venture to call your attention to a case of artificial small-pox which may be produced in anybody on a large or small scale without the employment of any lymph or animal virus which is innocuous, non-infectious, and which it seems probable may prove as a prophylactic quite as effectual as a previous attack of small-pox and possibly better than any system of vaccination which can be devised. The eruption is produced by inunction with the tartarised antimony ointment of the British Pharmacopœia. Two or three applications suffice. I am, Sirs, yours faithfully,

Nottingham, Oct. 20th, 1907. BELL TAYLOR, M.D. Edin.

*** This is a curious echo of an old notion. In his early days Jenner devised a method of preparing tartar emetic which met with the appr l of John Hunter, but, of course, without any reference to small-pox or its prevention. Not long before his death Jenner reverted to the subject of the uses of tartar emetic in a paper entitled "A Letter to Charles Henry Parry, M.D., F.R.S., &c., on the Influence of Artificial Eruptions in Certain Diseases incidental to the Human Body," but again without any suggestion of its use as a substitute for vaccination. The proposal of such substitution appears to have originated with Hufeland, a chemist or alchemist, and now it seems our correspondent has either by a curious coincidence hit upon the same notion himself, or else has chanced to meet with some of the old references, but has omitted to mention them in his note. Baron's "Life of Jenner" and White's "Story of a Great Delusion" may be consulted by any one who feels an interest in the matter.—ED. L.

SIR ASTLEY COOPER'S MANUSCRIPTS.

A CORRESPONDENT asks us "the value of original manuscript copy of Sir Astley Cooper's 'Lectures on Surgery.'" We know of no way to ascertain this than by submitting the MS. to one of the usual well-known dealers. The lectures were transcribed, we believe, by several people and were published in THE LANCET as delivered, so that it would be necessary to bring evidence to show that they were really in the handwriting of the famous surgeon.

THE CLEANLY EAST.

To the Editors of THE LANCET.

SIRS,—In reply to the letter of Sir John A. Cockburn which appeared in your issue of Nov. 9th, under the above heading, such an appliance as he describes has been in use at Smedley's Hydro, Matlock, for years and is no doubt employed at many other similar institutions also. It consists of a standard some two feet high, placed at the side of the closet pan and delivering hot and cold water. From the top of the standard projects a single curved metal tube which can be swung down over the pan and by an ingenious arrangement a vertical douche or a spray may be obtained at any temperature desired. The spray, either hot or cold, or hot and cold alternately, is beneficial in cases of external hæmorrhoids; the douche is an efficient substitute for an enema. Both are, of course, cleansing.

I am, Sirs, yours faithfully,

Chiswick, Nov. 12th, 1907. C. F. STEELE.

DAKHYL *v.* LABOUCHÈRE.

To the Editors of THE LANCET.

SIRS,—My name having cropped up in association with the Drouet Institute I beg to say, as the only medico of that name in practice in London, that I am not, and never have been, connected in any way with any of the parties and send this disclaimer to remove what impression my patients and the general public have received against my strictly ethical career for 16 years at this address.

I am, Sirs, yours faithfully,

S. W. CHEETHAM.

233, Romford-road, Forest Gate, E., Nov. 7th, 1907.

COALESINE FUEL.

WE have received from Mr. Herbert Coales, A.M.I.C.E., engineer and surveyor of the Market Harborough urban district council, a specimen briquette called "coalesine fuel," which is compounded of pulverised ashbin and trade refuse. This appears to be an excellent way of getting rid of a material which can often be singularly offensive. We understand that its application is intended chiefly for use as fuel in boilers. It is not adapted, we think, for domestic use, since it burns with an intensely smoky flame which deposits a considerable quantity of soot. With a forced draught, however, supplied in the boiler furnace, this is not likely to be the case. The briquette smells strongly of tar compounds, which, of course, are calculated to deodorise any offensive smell that may arise from the ashbin refuse.

WANTED—A HOME.

CONSTANT READER writes:—"Could any reader inform me of a home for a chronic inebriate, with a tendency to melancholia? The woman is not in a position to pay very much per week."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (20th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30). P.M.

THURSDAY (21st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (22nd).—London (2|P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golder-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (23rd).—Royal Free (9 A.M.), London (2 P.M.),'Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (19th).—ROYAL SOCIETY OF MEDICINE (PATHOLOGICAL SECTION) (20, Hanover-square, W.).—8.30 P.M.: Papers:—Mr. Shattock. Dr. Seligmann, Mr. Dudgeon, and Dr. Panton: Study of the Relationship between Avian and Human Tuberculosis.—Mr. L. J. Austin and Dr. O. Grünbaum: Some Experiences with the Tuberculin Ophthalmic Reaction.—Dr. F. G. Bushnell: A Case of Periosteal Abscess due to a Bacillus Paratyphosus.

WEDNESDAY (20th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M.: Paper:—Mr. J. W. Gordon: Mercury Globules as Test Objects for the Microscope.

ROYAL METEOROLOGICAL SOCIETY (Institute of Civil Engineers, Great George-street, Westminster, S.W.).—7.30 P.M.: Papers:—The International Balloon Ascents, July 22nd to 27th, 1907. Reports by Mr. W. H. Dines, Mr. J. E. Petavel, Mr. W. A. Harwood, Capt. C. H. Ley, and Prof. W. E. Thrift. Discussion of the Meteorological Observations made at the British Kite Stations, 1906–1907 (Miss M. White, Mr. T. V. Pring, and Mr. J. E. Petavel).

SOCIETY OF ARTS (John-street, Adelphi, W.C.).—8 P.M.: Inaugural Address: Sir Steuart C. Bayley.

FRIDAY (22nd).—ROYAL SOCIETY OF MEDICINE (EPIDEMIOLOGICAL SECTION) (20, Hanover-square, W.).—8.30 P.M.: Paper:—Dr. M. Coplans: Medical Inspection in Schools: The Gloucestershire Scheme.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (18th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—12 noon: Lecture:—Dr. Low: Pathological Demonstration. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Mr. Baldwin: Practical Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. C. Fox: Clinique. (Skin.) 5.15 P.M.: Lecture:—Dr. C. Watson (Edinburgh): A Purin-free Diet.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—10 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. T. R. Whipham); Throat, Nose, and Ear (Mr. H. W. Carson); X Ray (Dr. A. H. Pirie); 4.30 P.M.: Medical In-patient (Dr. A. J. Whiting).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Ear and Throat. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat. 3.15 P.M.: Special Lecture:—Mr. W. Turner: Hepatic Abscess.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—9 A.M.: Operations. 2.30 P.M.: In-patients—Medical (Dr. Beevor); Out-patients—Medical (Dr. Willcox), Surgical (Mr. Low), Eye (Mr. Morton and Mr. Coates).

HOSPITAL FOR DISEASES OF THE SKIN (52, Stamford-street, Blackfriars, S.E.).—5 P.M.: Lecture:—Mr. T. J. P. Hartigan: Syphilis.

ROYAL DENTAL HOSPITAL AND LONDON SCHOOL OF DENTAL SURGERY (Leicester-square, W.C.).—5.30 P.M.: Mr. W. H. Dolamore: The Movements of the Mandible, their Relation to the Production and Treatment of Abnormal Articulation of the Teeth and to the Articulation of Artificial Dentures.

TUESDAY (19th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. M. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—Dr. S. Taylor: Neuralgiæ and their Treatment.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. G. A. Sutherland: Clinique. (Medical.) 5.15 P.M.: Lecture:—Sir Douglas Powell: Senile Respiratory Disorders.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Clinique:—10.30 A.M.: Medical Out-patient (Dr. A. G. Auld). 2.30 P.M.: Surgical Operations (Mr. Carson). Cliniques:—Surgical Out-patient (Mr. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M.: Lantern-Demonstration:—Mr. H. Evans: Cancer of the Face.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. T. Hewlett: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—2.30 P.M.: In-patients—Medical (Dr. Beale), Throat and Ear (Mr. Waggett); Out-patients—Surgical (Mr. Edmunds), Throat and Ear (Mr. French); Operations (Mr. Beale).

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration:—Dr. W. Wingrave: Clinical Pathology.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Ferrier: Cases in the Wards.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND (11, Chandos-street, Cavendish-square, W.).—10 A.M.: Educational Committee. 12 noon: Parliamentary Committee. 1.30 P.M.: Council. 3 P.M.: Adjourned Discussion upon Dr. A. Wilson's paper on the Psychology of Crime (after recapitulatory remarks by Dr. Wilson). Dr. R. Jones: Remarks *re* the International Congress on School Hygiene recently held in London. Dr. F. W. Mott: Account of the International Congress of Neurology held last September in Amsterdam.

WEDNESDAY (20th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of Eye. 2.30 P.M.: Operations. Dr. Robinson: Diseases of Women. 5 P.M.: Lecture:—Mr. Ll. Williams: Fractures of the Jaw.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. R. Johnson: Clinique. (Surgical.) 5.15 P.M.: Lecture: Mr. D. Armour: Head Injuries.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 P.M.: Medical Out-patient (Dr. Whipham); Dermatological (Dr. G. N. Meachen); Ophthalmological (Mr. R. P. Brooks).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. F. Taylor: Medicine. 2.30 P.M.: Operations. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye. 2.15 P.M.: Special Lecture:—Dr. F. Taylor: Disseminated Sclerosis.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—2.30 P.M.: In-patients—Surgical (Mr. Stabb); Out-patients—Medical (Dr. Horder), Gynæcological (Dr. Lockyer), Skin (Dr. Whitfield), Teeth (Mr. Baly); Operations (Mr. Stabb).

HOSPITAL FOR DISEASES OF THE SKIN (52, Stamford-street, Blackfriars, S.E.).—5 P.M.: Lecture:—Mr. T. J. P. Hartigan: Tubercle.

THURSDAY (21st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Clinical Lecture:—Mr. Dunn: Cases of Diseases of the Eye.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Mr. A. W. M. Robson: Pancreatic Catarrh and Interstitial Pancreatitis in Relation to Catarrhal Jaundice and also Glycosuria.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting); Surgical Out-patient (Mr. Carson); X Ray (Dr. Pirie). 3 P.M.: Medical In-patient (Dr. G. P. Chappel). 4.30 P.M.: Throat Operations (Mr. Carson). 5 P.M.: Demonstration at the Mount Vernon Hospital, Hampstead, N.W.:—Dr. J. E. Squire: Selected Chest Cases.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. G. Rankin: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—2.30 P.M.: In-patients—Medical (Dr. Morison).

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M.: Chesterfield Lecture:—Dr. M. Dockrell: Acne Vulgaris in its Three Stages: I., Comedo; II., Indurata; III., Necrotica.

CHARING CROSS HOSPITAL.—3 P.M.: Demonstration:—Dr. Galloway and Dr. MacLeod: Diseases of the Skin. 4 P.M.: Demonstration:—Dr. I. Bruce: X Ray Diagnosis. (Post-Graduate Course.)

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M.: Lecture:—Mr. Kellock: Torticollis.

HOSPITAL FOR NERVOUS DISEASES (Welbeck-street, W.).—5 P.M.: Lecture:—Mr. L. Evans: The Indications for Arthrodesis of the Shoulder Joint.

FRIDAY (22nd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. M. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—Dr. Abraham: Cases of Skin Disease.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. H. Tilley: Clinique. (Ear.) 5.15 P.M.: Lecture:—Dr. D. Ferrier: Atrophic Paralyses.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—10 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. Bradford: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—3 P.M.: Clinical Lecture:—Dr. Beevor: The Symptoms and Treatment of Locomotor Ataxia.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration:—Dr. W. Wingrave: Clinical Pathology.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr A. Turner: Muscular Atrophy.

SATURDAY (23rd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of Eye. 2.30 P.M.: Operations. Dr. Robinson: Diseases of Women.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

HOSPITAL FOR DISEASES OF THE SKIN (52, Stamford-street, Blackfriars, S.E.).—5 P.M.: Lecture:—Mr. T. J. P. Hartigan: Leprosy, Rhinoscleroma, Mycosis Fungoides.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 14th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Nov. 8	29·83	E.	...	63	56	47	48	48	Overcast
,, 9	29·79	S.W.	...	90	61	48	51	52	Cloudy
,, 10	30·00	S.W.	...	62	52	46	47	47	Foggy
,, 11	30·04	S.W.	...	54	49	38	39	39	Foggy
,, 12	29·81	S.W.	...	62	52	39	44	44	Raining
,, 13	29·73	W.	0·09	79	54	44	44	48	Fine
,, 14	30·15	S.	...	58	54	43	45	46	Overcast

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